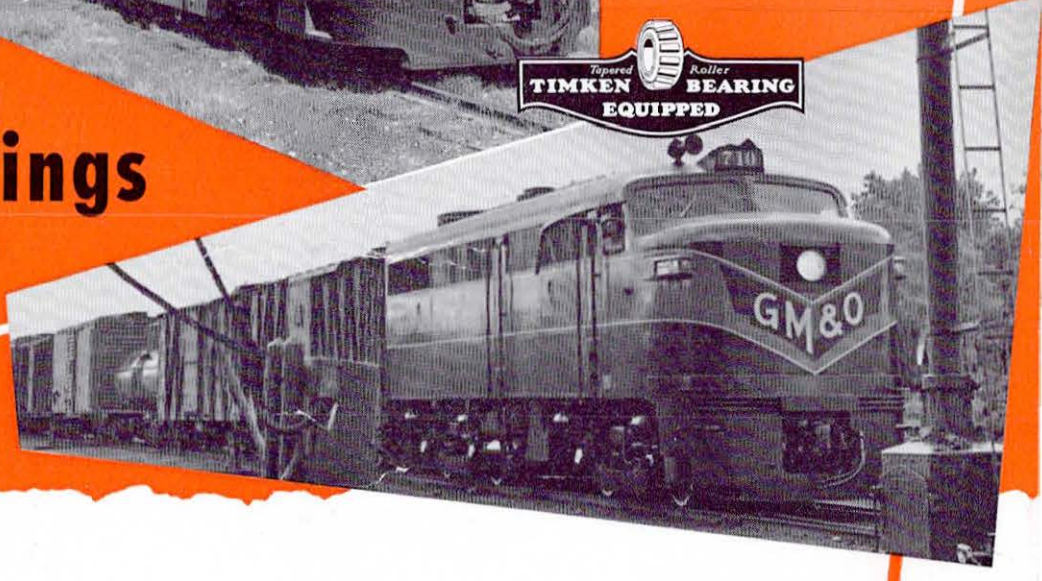
FOUNDED IN 1856

RAILWAY AGE

APRIL 17, 1948

McCARTNEY LIBRARY
GENEVA COLLEGE

All 80 On Timken® Bearings



Tapered Roller TIMKEN BEARING EQUIPPED

Main trunk line freight on the Gulf, Mobile & Ohio Railroad from Mobile and New Orleans north to St. Louis now is being handled by 80 new Alco-G.E. 1500 H.P. Diesel-electric locomotives equipped with Timken Roller Bearings in all journals.

These motive power units are arranged to be used singly or in multiples as required. The upper photograph shows a locomotive comprising three units totalling 4,500 H.P. The lower photograph shows a single 1,500 H.P. unit hauling a medium train.

More and more Timken Roller Bearings constantly are being used in railroad motive power of all types because they enable locomotives to exert their full tractive effort with maximum effect when starting trains; operate with the same friction-free smoothness in winter as in summer; eliminate hot boxes; greatly extend lubrication periods; increase availability; reduce maintenance. They can be applied to existing motive power as well as new locomotives. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address "TIMROSCO".

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION →◎←

THE PENALTY OF LEADERSHIP

As we approach the completion of the 100,000th freight car to be equipped with Unit Trucks, we cannot forget the debt we owe to those far-seeing railroad men who staked their professional careers on their judgment of this completely new system of brake rigging.

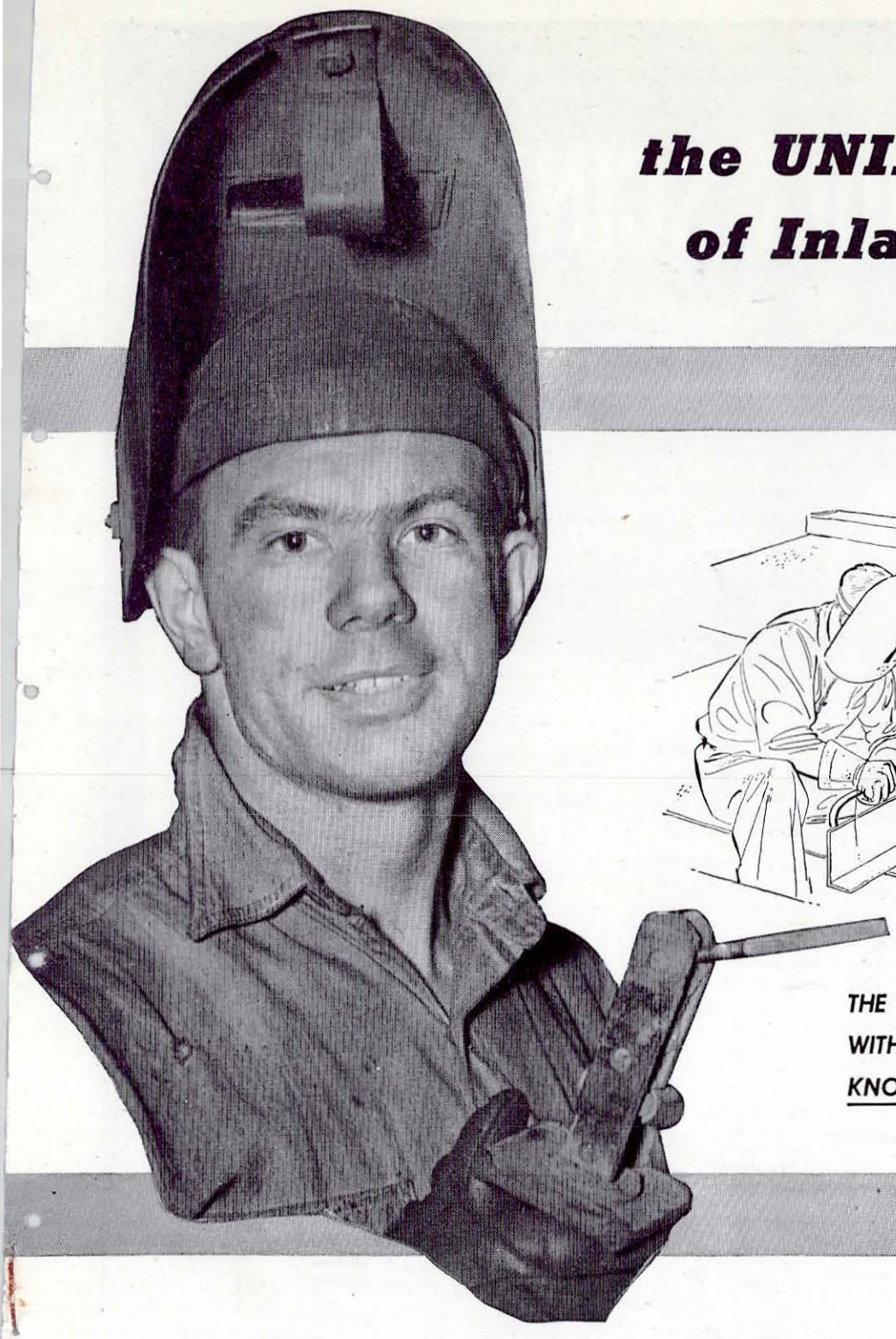
The capacity to make momentous decisions, and to face the consequences whatever they may be, is the penalty of leadership in any field.

The phenomenal growth of Unit Truck in a few short years is but one more indication that our railroad leaders possess that capacity in abundance.

UNIT TRUCK CORPORATION . . . NEW YORK

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year, U. S. and Canada. Single copies, 50 cents each. Vol. 124, No. 16.

"I like the UNIFORMITY of Inland Steel"



THE MEN WHO WORK WITH INLAND STEEL KNOW ITS QUALITY!

Welders know their jobs are easier . . . results more satisfactory . . . when the steel they work is *uniform*. They also know, from experience, that the steel will be uniform in its chemical and physical properties, *if it's made by Inland.* Special care is taken in every stage of production, to make sure that the Inland steel shipped today will match, in every detail, that received by the customer last week . . . or last year.

INLAND STEEL CO., 38 S. Dearborn St., Chicago, Ill.

Sales Offices: Chicago, Davenport, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul.

INLAND STEEL

BARS • STRUCTURALS • PLATES • SHEETS • STRIP
TIN PLATE • FLOOR PLATE • PILING • REINFORCING BARS • RAILS • TRACK ACCESSORIES

HERE'S YOUR

BENDIX-SCINTILLA

REG. U. S. PAT. OFF.

SERVICE ORGANIZATION

GUARDIAN OF FUEL INJECTION EFFICIENCY IN YOUR AREA

ARIZONA

Phoenix, Charlie C. Jones Battery & Elec. Co., 318 West Jefferson St.

CALIFORNIA

Los Angeles 21, Magneto Sales & Service Co., 751 Towne Ave.
San Diego, Magneto Sales & Service Co., 1254 Kettner Blvd.
San Francisco 3, H. G. Makelim Magneto Repair Co., 1583 Howard St.

COLORADO

Denver 3, Central Supply Co., 1171 Lincoln St.

ILLINOIS

Chicago 16, Illinois Auto Electric Co., 2011-37 Indiana Ave.

IOWA

Des Moines 9, Electrical Service & Sales Co., 1313 Walnut St.

LOUISIANA

New Orleans 13, John M. Walton, Inc., 1050 Carondelet St.

MARYLAND

Baltimore 1, Parks & Hull Automotive Corp., 1033 Cathedral St.

MASSACHUSETTS

Boston 15, W. J. Connell Co., 121 Brookline Ave.

MINNESOTA

Minneapolis 2, Reinhard Bros. Co., Inc., 11 South 9th St.

MISSOURI

Kansas City 8, Electrical & Magneto Service Inc., 2538 Grand Ave.
St. Louis 3, Electric Parts & Service Co., 2900 Washington Blvd.

NEBRASKA

Omaha 2, Carl A. Anderson, Inc., 16th & Jones St.

NEW JERSEY

Newark 2, Tire Trading Co., 239 Halsey St.

NEW YORK

Brooklyn 16, E. A. Wildermuth, Inc., 1102 Atlantic Ave.
Buffalo 8, Hettrich Electric Service, 1032 Ellicott St.
New York 23, The Durham Co., Inc., 17 West 60th St.
Syracuse 4, The Durham Co., Inc., 943 Genesee St.
Troy, Ehrlich Electric Service, Inc., 200 Fourth St.

OHIO

Cleveland, Cleveland Ignition Co., 1301 Superior Ave., N.E.

OKLAHOMA

Tulsa 3, Magneto Ignition Co., 701 West 5th St.

OREGON

Portland 14, Automotive Products, Inc., 1700 Southeast Grand Ave.

PENNSYLVANIA

Philadelphia, J. W. Parkin, Jr., 2251 North Broad St.
Pittsburgh 13, Automotive Ignition Co., 4917 Baum Blvd.

TENNESSEE

Memphis 4, Automotive Electric Service Co., 982 Linden Ave.

TEXAS

Houston, Beard & Stone Electric Co., Milam at Polk St.
Magneto & Diesel Injector Service, 1510 Texas Ave.

VIRGINIA

Richmond, Chas. H. Woodward Elec. Co., 709 Broad St.

WASHINGTON

Seattle 14, Sunset Electric Co., 300 Westlake, North
Spokane 8, Sunset Electric Co., 1st & Adams St.

WISCONSIN

Milwaukee 2, Wisconsin Magneto Co., 918 North Broadway

CANADA

Quebec–Montreal—International Electric Co., Ltd., 1037 Bleury St.
British Columbia–Vancouver—Magneto Sales & Service Ltd., 126 Gore Ave.

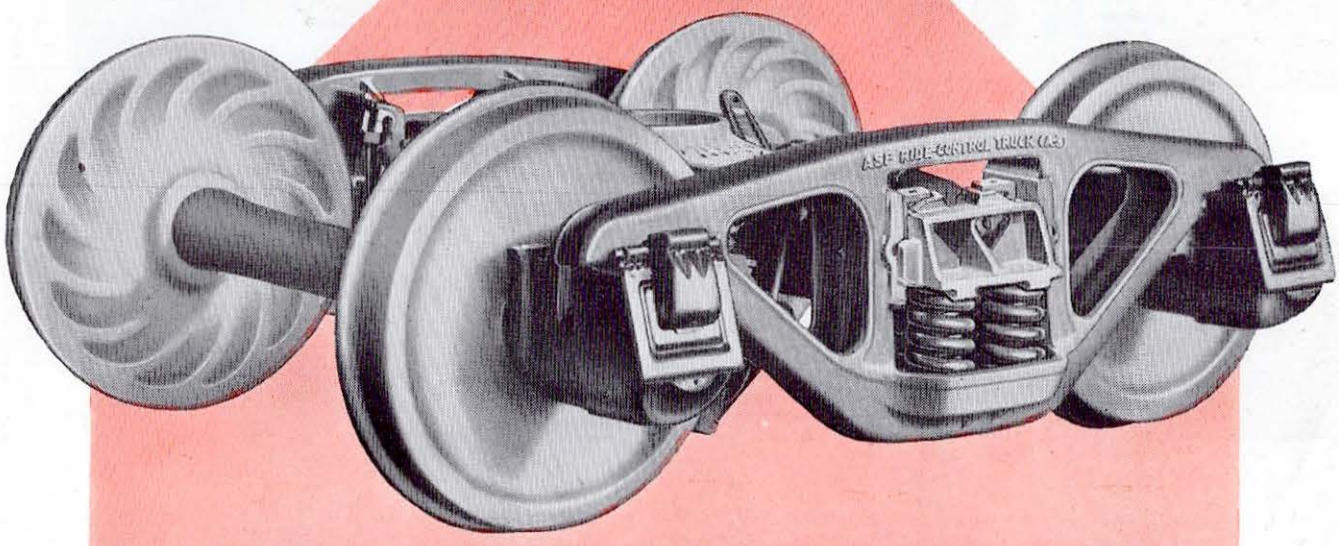
Send for Pocket List of Bendix-Scintilla Fuel Injection and Ignition Service Stations

WESTERN OFFICE
582 Market St.
San Francisco, Calif.

SCINTILLA MAGNETO DIVISION of
SIDNEY, N. Y.

Bendix
AVIATION CORPORATION

RUGGED SIMPLICITY



The A.S.F. Ride-Control Truck represents the modern freight car truck in its simplest form . . *side frames* and *bolster* with spring plates and spring plank omitted—*springs* and *Ride-Control parts* for cushioning and controlling the ride.

A-S-F *Ride-Control* TRUCK

NO SPRING PLATES · NO SPRING PLANKS

CONSTANT FRICTION CONTROL

LONG SPRING TRAVEL

AMERICAN STEEL FOUNDRIES

MINT-MARK OF ⬡ FINE CAST STEEL

GOULD RESEARCH MEANS BETTER BATTERIES —NOW

Another way you profit from the GREATER GOULD*

The most complete storage battery research laboratory in the United States is the Gould laboratory at Depew, N.Y. Equipment that only Gould has takes guesswork out of material and plant control, and brings answers to field problems in a fraction of the time formerly needed. Gould is building better batteries today—and from Gould will come the "Battery of Tomorrow."

The Greater Gould brings profit to you in better service and dual plant facilities. But in no way do you profit more than from the exclusive research facilities of Gould—already the "Choice of Engineers."

*The Storage Battery Division of Philco Corporation was merged with the Gould Storage Battery Corporation on June 28, 1947. The consolidated organizations are operating under the name of Gould.

Always use Gould automobile and truck batteries

GOULD

"Thirty" and KATHANODE **BATTERIES**

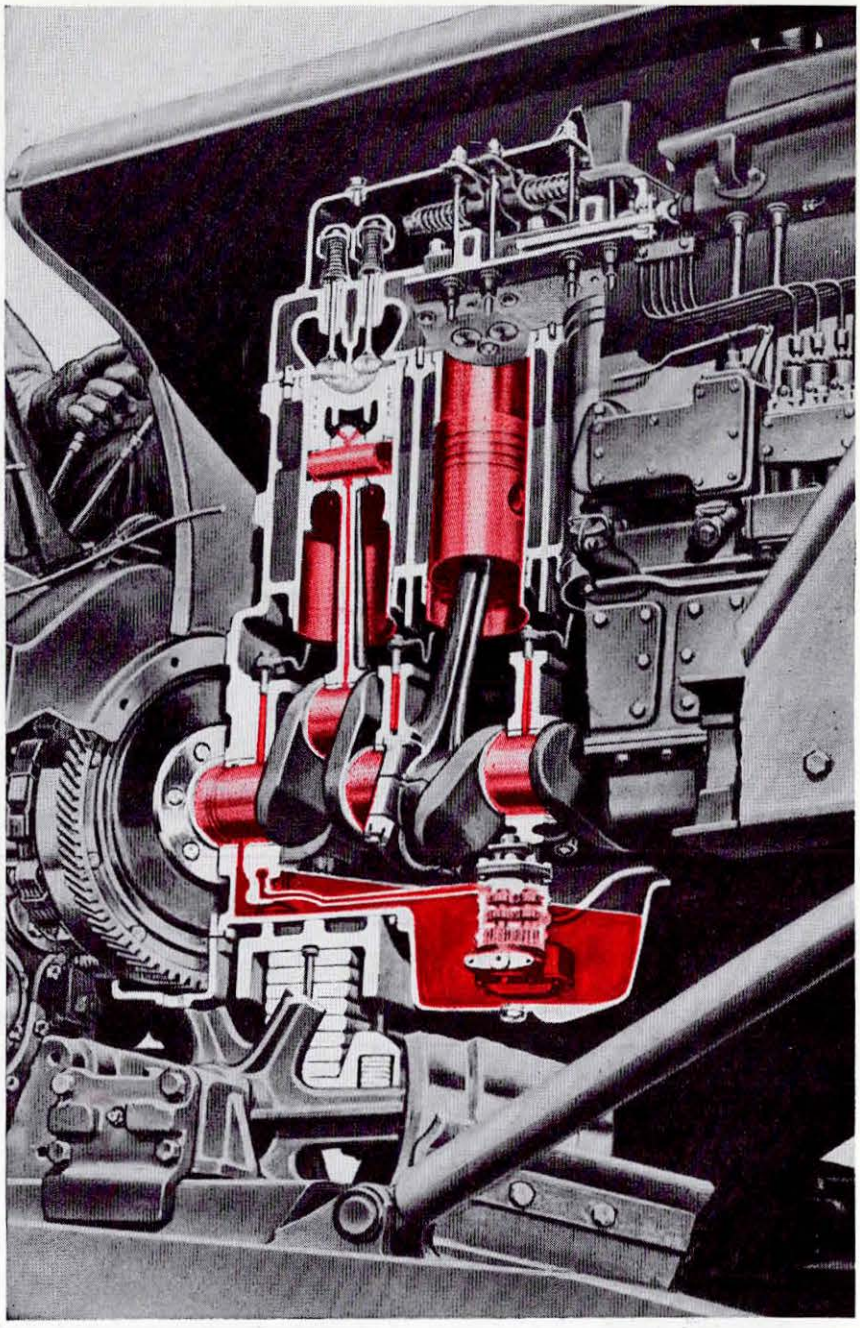
Gould Storage Battery Corporation
TRENTON, NEW JERSEY

Inside Knowledge on Lubrication Problems

—SPEED—

This is One of a Series of Messages on Common Problems in Your Diesels

Fast Work-out for Oil!



IF YOU WANT to see a fast toe-to-toe slugging match between oil and speed, just look inside the Diesel engine of this heavy-duty tractor used in maintenance-of-way work!

Those pistons slide up and down inside the cylinders at the rate of 21 feet per second. That fast, shearing slide, with the heavy side thrusts developed during the power and compression strokes, can play havoc with the thin oil films on the cylinder walls. If these films rupture under the continuous shearing action, steel will scrape on steel. Rapid ring and liner wear will be the result.

Socony-Vacuum makes special oils to meet such conditions in automotive-type Diesels. They provide tough, rupture-resisting films that give maximum protection against ring scuffing and liner wear. They resist excessive thinning under heat, fight off the formation of gum and lacquer that interfere with free ring and valve action. What's more, their special detergent action helps to keep engines clean and free from deposits.

★ ★ ★

Get these superior oils in your Diesel tractors now. Rely on Socony-Vacuum lubricants for all maintenance-of-way equipment.

GARGOYLE Railroad Lubricants

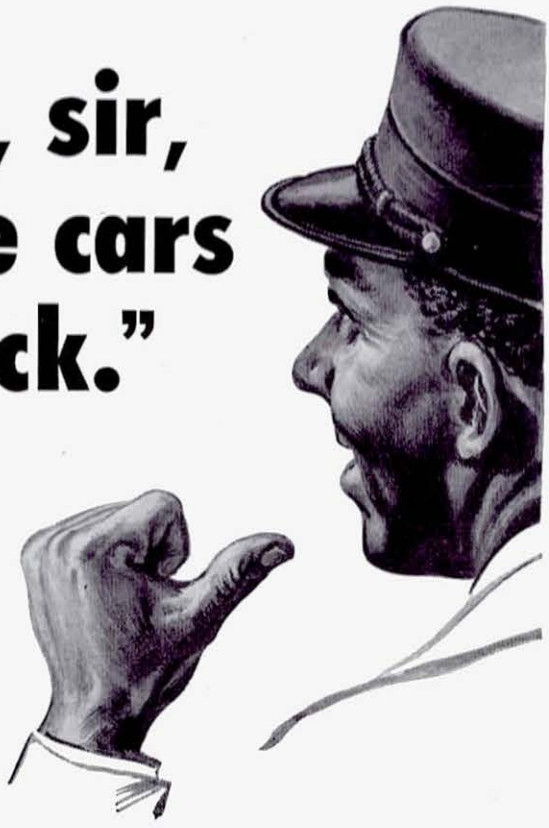
SOCONY-VACUUM

Socony-Vacuum Oil Co., Inc.

and Affiliates: Magnolia Petroleum Company, General Petroleum Corporation

"Movies tonight?"

"Yes, sir, three cars back."



Today, on some of America's crack trains, your neighborhood movie travels with you, only a few cars away. As you speed cross-country you can enjoy the show, relax at this novel theater-of-the-rails. Or perhaps you prefer to read . . . or linger over refreshment in the tavern lounge.

There's so much to do, to enjoy, in the modern, well-groomed, well-appointed trains that hours go by like minutes. This is the age of luxury on wheels.

Many of the wheels themselves are products of the Bethlehem shops, which are among the best-manned, best-equipped in the world. To the casual rider, a wheel is a wheel. To the technically-minded car-builder, a wheel stamped BETHLEHEM means fine steel, fine workmanship, and the closest metallurgical controls.

Whether you are building the new-type luxury cars or are putting new wheels on older rolling-stock, remember the name Bethlehem. It stands for as tough a wheel as you can buy—one you can depend upon for long, faithful service.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

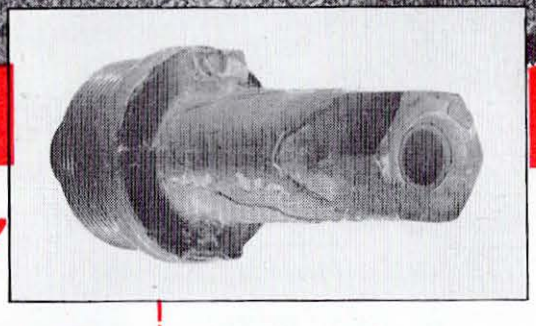
On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM WROUGHT-STEEL WHEELS and FORGED-STEEL AXLES

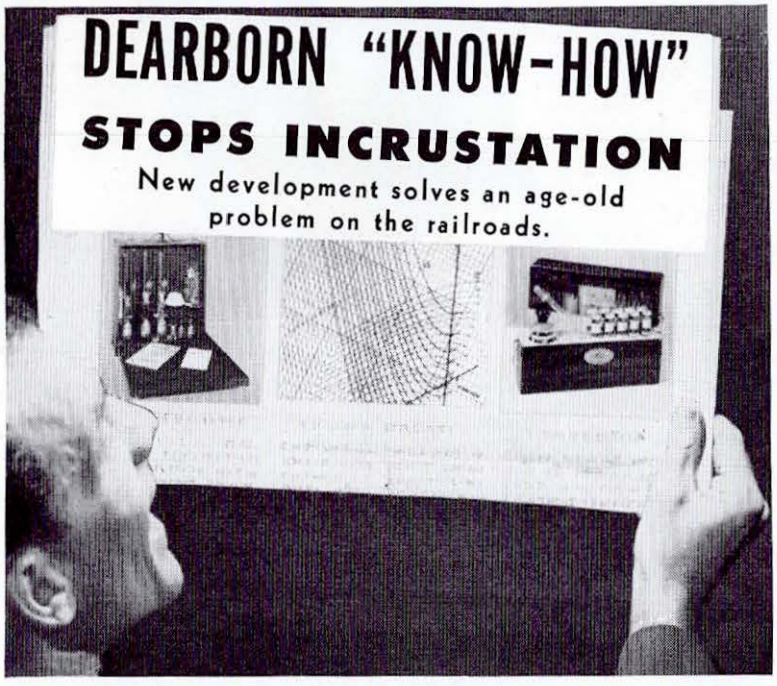
Do You Want to Stop...

INCRUSTATION

In Water Distribution Systems, Injectors, etc.?



Then Read This!



Pipe Lines Cleaned Without Interrupting Service

This Dearborn development provides a method for cleaning pipe lines in distribution systems and encrusted locomotive appurtenances while in service. This eliminates taking up pipe lines regularly for cleaning or shopping locomotives to clean feed lines.

Incrustation . . . an outgrowth of unstable boiler feed water . . . has been only partially solved at best . . . but now Dearborn offers a scientific GUIDE in the selection and use of chemicals to guarantee the control of calcium formation and other deposits.

Guess Work Now Replaced by Scientific Certainty

Now, by practical adaption of complex calculation and charts supplemented by measurements, simple tests in the field, the effectiveness of the control and removal of incrustation can be established. In use on several railroads, this new technique is preventing incrustation and providing the means for removing old deposits from pipe lines.

Dearborn
TRADE MARK REGISTERED

"THE Leader FOR OVER 60 YEARS"

ENGINEERING SERVICE AND WATER TREATMENT

Dearborn Chemical Company

310 S. Michigan Ave., Chicago 4
205 E. 42nd St., New York
807-15 Mateo St., Los Angeles
2454 Dundas St., West, Toronto

Dearborn Chemical Company
Dept. T, 310 S. Michigan Ave.
Chicago 4, Illinois

☐ Please send data on the Dearborn Method of Incrustation Control

Name..... Title.....

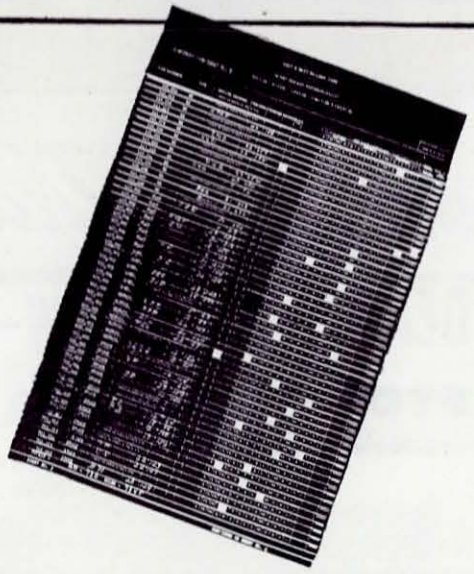
Company .....

Street .....

City..... State.....

KARDEX-DEXIGRAPH

a perfect combination for Car Records Control



"Up-to-the-minute" Records become "Up-to-the-minute" Reports in a few minutes

KARDEX-DEXIGRAPH meets squarely today's need for a truly efficient system of handling Railroad Car Records and Reports. It is *rapid, space saving, accurate* and always *"up-to-the-minute"!*

KARDEX Records permit a great concentration of valuable record information for summaries and reports. Salient facts stand out at a glance. In addition, Kardex systems permit centralization of records for cost-cutting efficiency, and speed operations with unrivalled finding and filing ease.

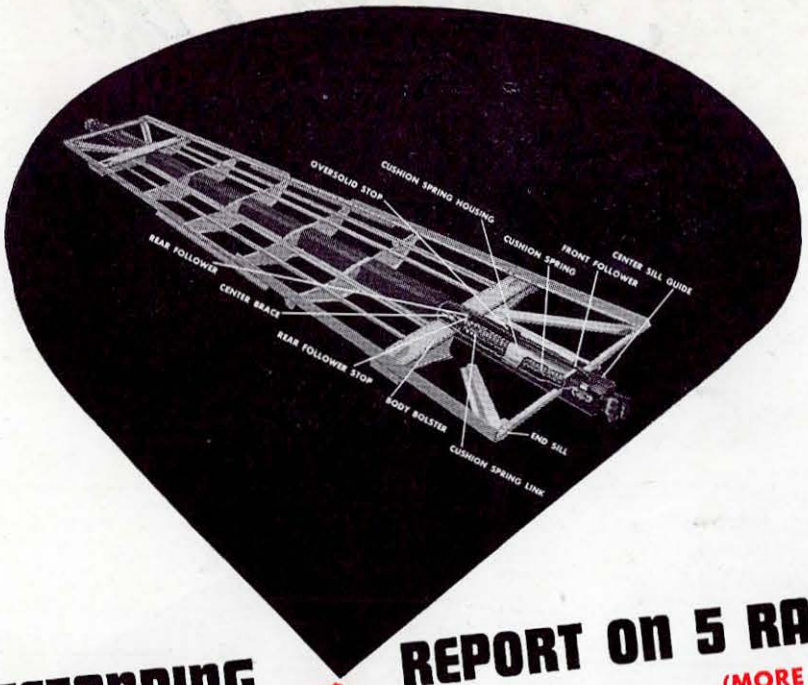
DEXIGRAPH — another Remington Rand product — turns your Kardex records into reports within minutes. DEXIGRAPH reproduces any type record at a rate of more than 300 full or reduced size reproductions per hour — is easy to operate, requires no previous experience and is economical in cost.

Here are some of the advantages of combined KARDEX-DEXIGRAPH control:

1. Eliminates the necessity for repeating or transferring information from one record to another.
2. Eliminates the necessity for "setting up books" which require new binders, index sheets and card files to maintain a record for each movement, each day, each month or other record period.
3. Provides a record for immediate and direct posting.
4. Provides a record which gives closer, more profitable control plus a large saving in clerical work.
5. Provides a record which does not require opening entries, thus saving many thousands of postings per month.
6. Provides a record that is *always* "up-to-the-minute".
7. Provides facilities by which an up-to-the-minute report may be prepared within a few seconds at negligible expense.
8. Provides a method by which typing—or other methods in preparation of reports which result in lost time and error—may be eliminated.
9. Permits a great concentration of valuable record information.
10. Represents a saving from 30 to 50% over your present set-up with regard to total overall space requirements.

Why not investigate this tested system for Car Records Control today? Simply call our nearest office or write direct to Transportation Systems Dept., 315 Fourth Ave., New York 10, N. Y.

Keeping pace with railroad progress **Remington Rand** *the FIRST name in business systems*



OUTSTANDING REPORT ON 5 RAILROADS

(MORE TO FOLLOW)

ON AND OFF LINE FREIGHT CAR MAINTENANCE COSTS REDUCED TO: 3c TO 63c PER CAR PER YEAR WITH DURYEA CUSHION UNDERFRAME

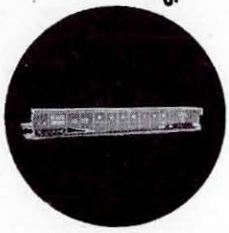
Here's proof of the worthwhile savings possible with Duryea Cushion Underframe. Accurate records of these five carriers show that the actual cost of parts purchased to maintain these cars has ranged from a low of 3c to a high of 63c per car per year.

These records cover periods of from six to twenty years' service with fleets of 2,200 to 40,000 cars. Figured only on the basis of maintenance parts purchased each year, the respective costs were 3c, 9c, 15c, 57c and 63c. *The maximum accumulated costs of Duryea parts for the 30-year life expectancy of a freight car based on these results will not exceed $19.00.*

Write for complete details on how Duryea Cushion Underframe saves in seven ways for all types of cars.

GONDOLA CARS • FLAT CARS • REFRIGERATOR CARS

STOCK CARS • HOPPER CARS • BOX CARS



O.C. DURYEA CORPORATION

Field Building, Chicago 3, Illinois

GET THE MOST *Service Life* FROM CROSS TIES

Specify AMCRECO

Lowry Process

CREOSOTED TIES

•

ADZED AND BORED CROSS TIES

BRIDGE TIES

PILES • TIMBERS

Be sure the cross ties you buy meet A.R.E.A. specifications. They are the foundation of longer cross tie service life.

● Amcreco's proved methods of wood preservation have extended the *service life* of cross ties for railroads everywhere. Actual service records show that Amcreco pressure-treated ties consistantly exceed their life expectancy. This longer service life means *lower* year 'round maintenance costs and appreciable savings for railroads.

For the sake of economy specify *Amcreco* for all of your creosoted products. When considering trestle construction it will pay you to consult Amcreco engineers. Write us today, there is no obligation.

Pressure-treated for strength that lasts!

AMERICAN CREOSOTING COMPANY
INCORPORATED

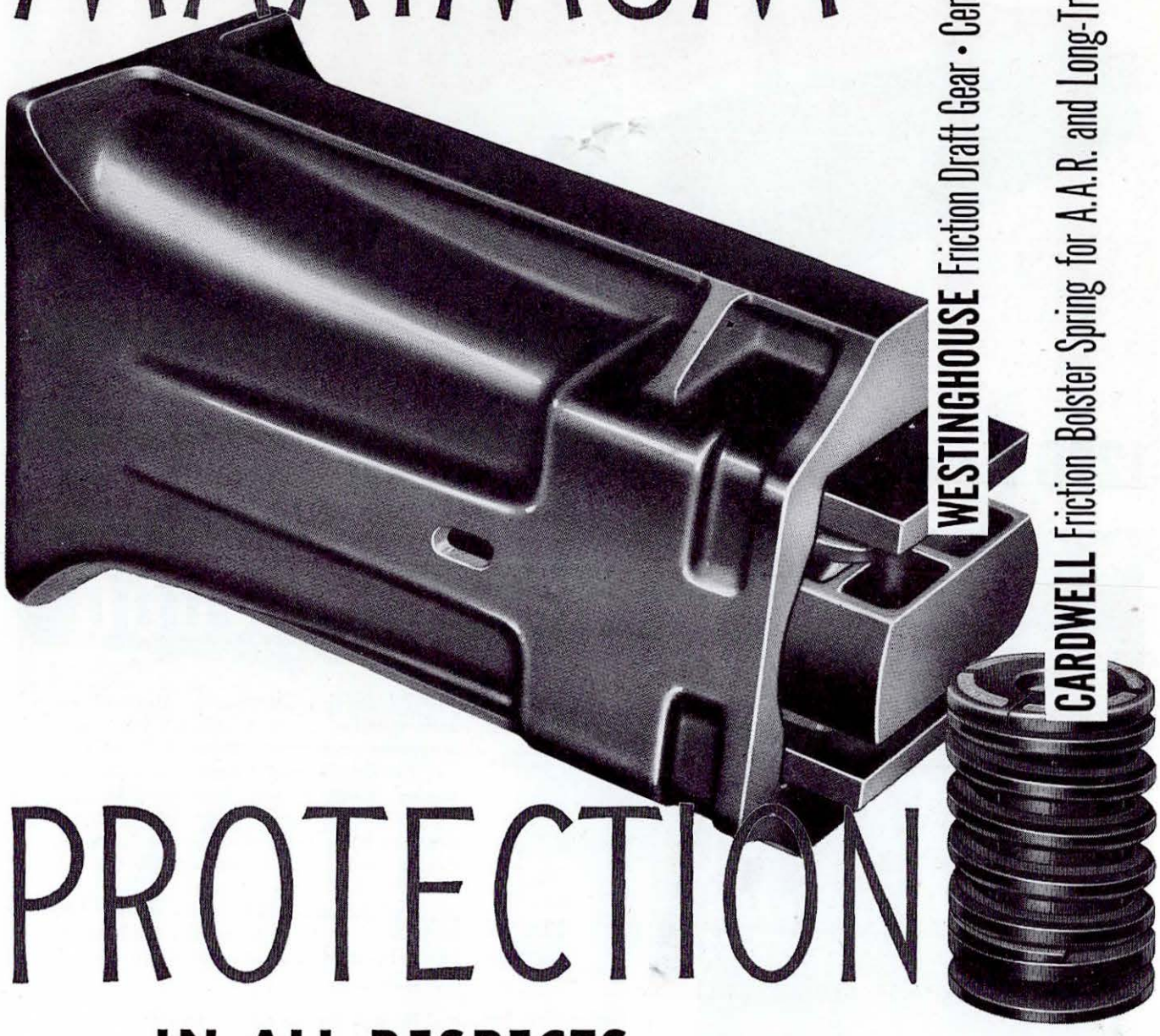
COLONIAL CREOSOTING COMPANY INCORPORATED

AMCRECO LOWRY PROCESS CREOSOTED WOOD

GEORGIA CREOSOTING COMPANY INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.

MAXIMUM



WESTINGHOUSE Friction Draft Gear • Certified A.A.R.

CARDWELL Friction Bolster Spring for A.A.R. and Long-Travel Springs

PROTECTION

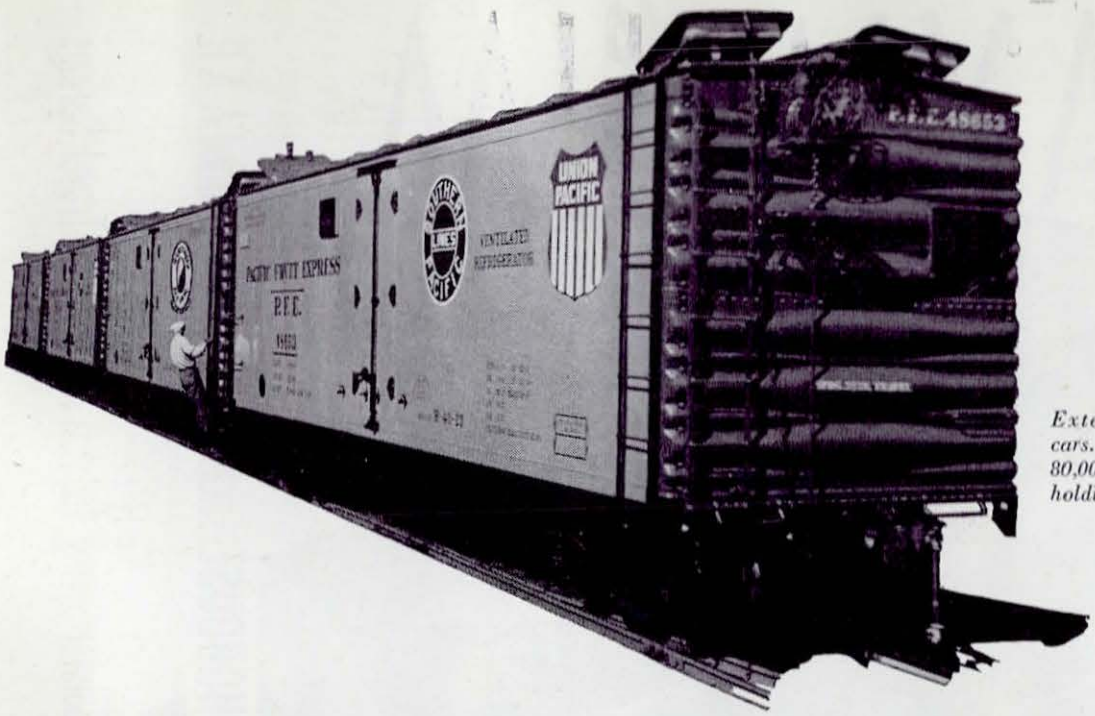
IN ALL RESPECTS

Cardwell and Westinghouse shock-absorbing devices protect rolling stock against excessive horizontal, vertical, lateral and angular forces. They are designed with a high factor of safety, resulting in capacities well above the requirements.

Over 98% of the cars in freight carrying service are A.A.R. construction and over 96% have Friction Draft Gears.

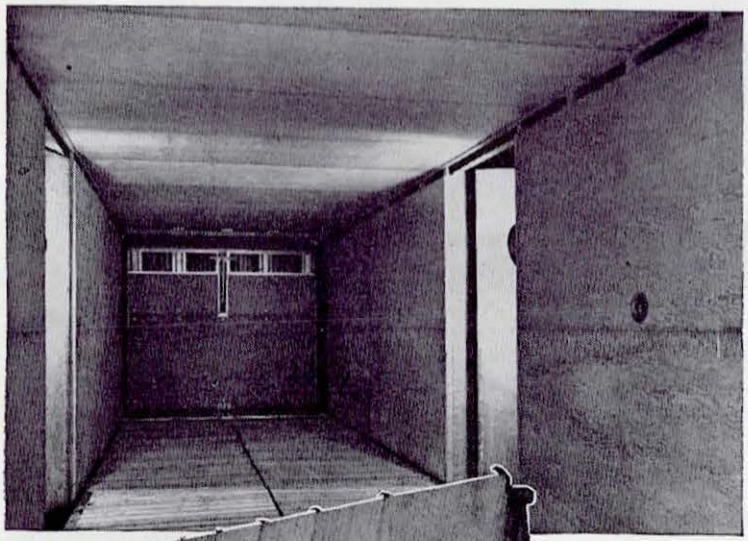
Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

2711



Exterior of the completed cars. Each has a capacity of 80,000 pounds, with ice-tanks holding 11,500 pounds.

1250 New Reefer Cars... Lined with Douglas Fir



Plywood

AGAIN durable Douglas fir plywood has been specified to do a railroad job where toughness and long service are essential. The Pacific Car and Foundry Company of Renton, Washington, is building 500 modern reefers for Pacific Fruit Express Company, to be followed by 250 for Northern Pacific Railway, and another 500 for Pacific Fruit Express Company. Exterior plywood is used on the walls, ceiling and bulkheads, as well as in the bunkers. It has to be *good* to meet such specification—and it is!

LEFT ABOVE: Interior of the car, showing durable plywood panels in place. Each car required the following Exterior-type Douglas fir plywood: 136 square feet of 3/8-inch for end wall lining, 427 square feet of 9/16 for side wall lining, 384 square feet of 9/16 for the ceiling and 81 square feet of 1-inch for the bunker bulkheads. Set-in photo shows workmen assembling ceiling section, which was hoisted into place and bolted atop the car.

Douglas Fir

PLYWOOD

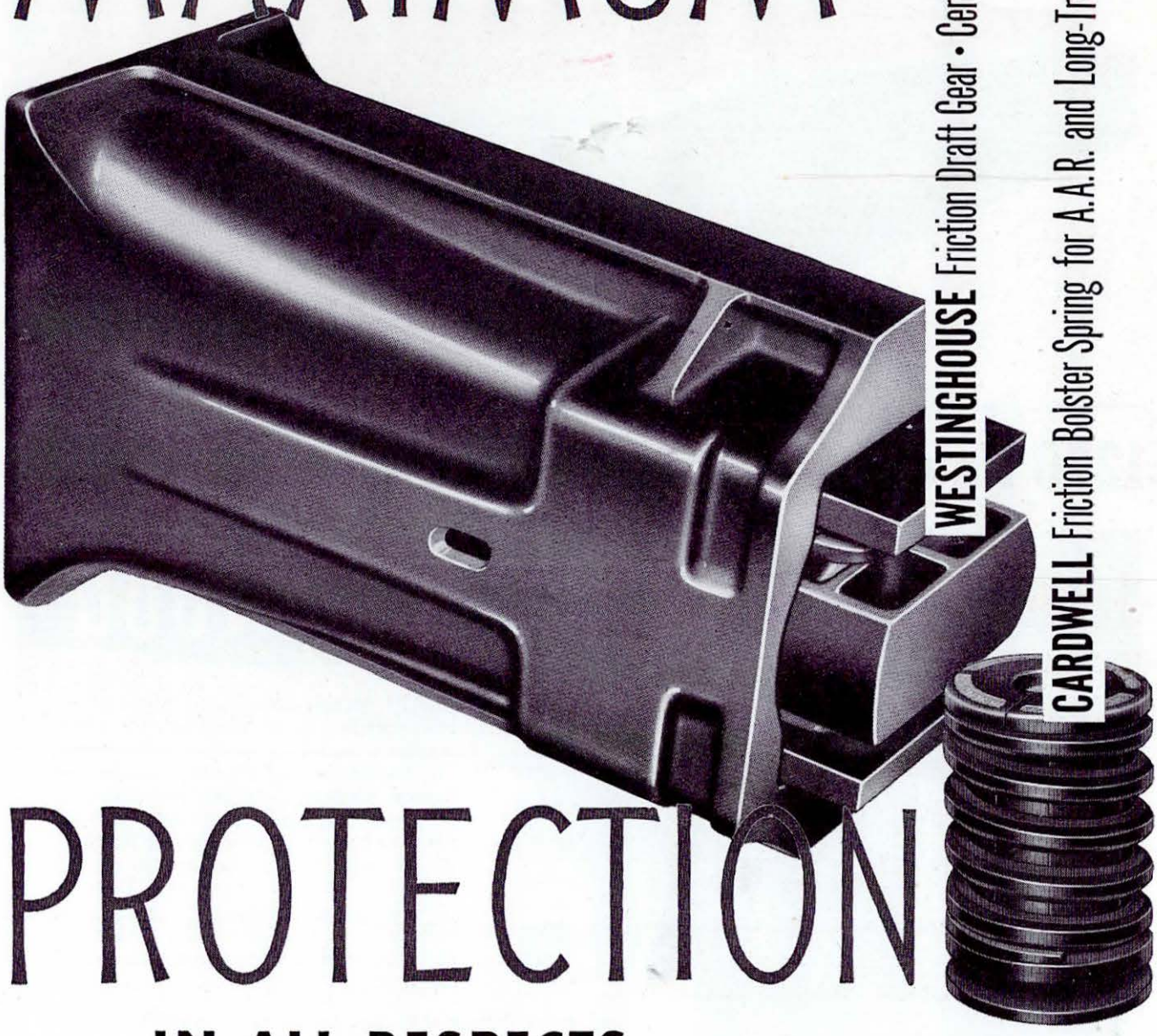
LARGE, LIGHT, STRONG

Real Wood **Panels**

PLYWOOD'S MANY ADVANTAGES KEEP DEMANDS GREATER THAN PRESENT SUPPLY

Douglas fir plywood production is greater than in pre-war years. Today's demand, however, is unprecedented; and this uneven demand-supply ratio still determines whether plywood is readily available at any given time and place. Available raw material is the controlling factor in any expansion beyond present output. For price and delivery information, contact your regular source of supply. For technical data, write or wire the Douglas Fir Plywood Association, Tacoma 2, Washington.

MAXIMUM



PROTECTION

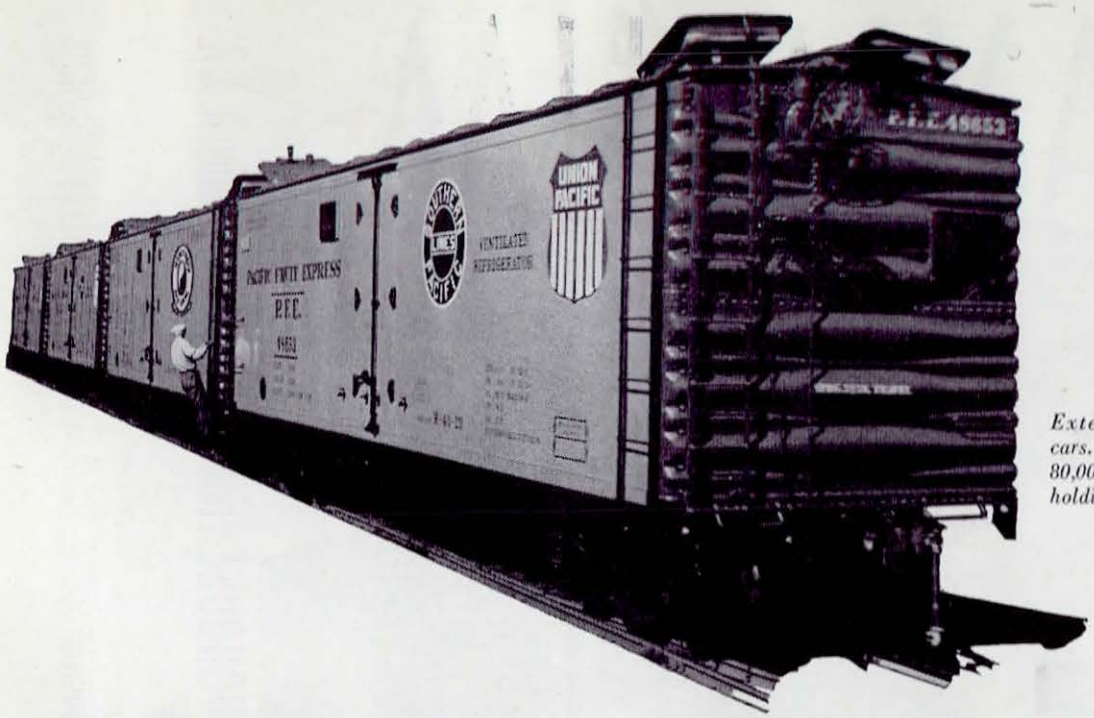
IN ALL RESPECTS

Cardwell and Westinghouse shock-absorbing devices protect rolling stock against excessive horizontal, vertical, lateral and angular forces. They are designed with a high factor of safety, resulting in capacities well above the requirements.

Over 98% of the cars in freight carrying service are A.A.R. construction and over 96% have Friction Draft Gears.

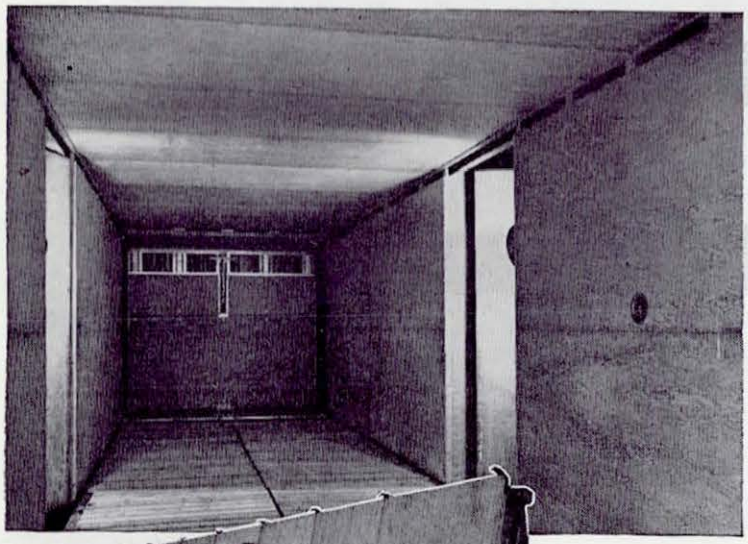
Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

2711



Exterior of the completed cars. Each has a capacity of 80,000 pounds, with ice-tanks holding 11,500 pounds.

1250 New Reefer Cars... Lined with Douglas Fir



Plywood

AGAIN durable Douglas fir plywood has been specified to do a railroad job where toughness and long service are essential. The Pacific Car and Foundry Company of Renton, Washington, is building 500 modern reefers for Pacific Fruit Express Company, to be followed by 250 for Northern Pacific Railway, and another 500 for Pacific Fruit Express Company. Exterior plywood is used on the walls, ceiling and bulkheads, as well as in the bunkers. It has to be *good* to meet such specification—and it is!

LEFT ABOVE: Interior of the car, showing durable plywood panels in place. Each car required the following Exterior-type Douglas fir plywood: 136 square feet of 3/8-inch for end wall lining, 427 square feet of 9/16 for side wall lining, 384 square feet of 9/16 for the ceiling and 81 square feet of 1-inch for the bunker bulkheads. Set-in photo shows workmen assembling ceiling section, which was hoisted into place and bolted atop the car.

Douglas Fir
PLYWOOD
LARGE, LIGHT, STRONG
Real Wood **Panels**

PLYWOOD'S MANY ADVANTAGES KEEP DEMANDS GREATER THAN PRESENT SUPPLY

Douglas fir plywood production is greater than in pre-war years. Today's demand, however, is unprecedented; and this uneven demand-supply ratio still determines whether plywood is readily available at any given time and place. Available raw material is the controlling factor in any expansion beyond present output. For price and delivery information, contact your regular source of supply. For technical data, write or wire the Douglas Fir Plywood Association, Tacoma 2, Washington.

MANY LITTLE THINGS

Help the Railroads Run...

★ Lamson

EFFICIENCY COTTER PINS

For full details send for this new booklet.

Behind the outward hustle and bustle of railroading, many small but important products do their part to keep the railroads running at peak efficiency.

Cotter pins, for example. They are used in hundreds of places on cars, engines and other equipment.

Lamson & Sessions makes a wide selection of cotters — with points for every purpose. Each is designed to do the job better, faster and to hold up longer. They come in a variety of metals and alloys — steel, brass, bronze, stainless steel and aluminum alloy. Cotters are "tumbled" to remove sharp points and edges. Sizes range from 1/32" x 1/4" to 3/4" x 24".

When you buy cotters specify LAMSON — and you specify the BEST!

RAILROAD SALES DEPARTMENT

THE LAMSON & SESSIONS COMPANY

1971 West 85th Street • Cleveland 2, Ohio

Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

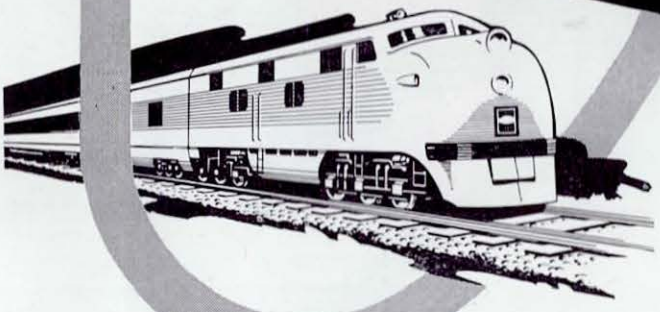
Lamson & Sessions

FASTENERS THAT KEEP PACE WITH RAILROAD PROGRESS

Railroad Modernization PAYS!

MODERNIZE NOW WITH A GROVER TUBE SYSTEM

This installation high-balls way-bills and switch tickets more than half-a-mile, from trainmaster to yardmaster, at 40 feet a second.



Time was when N.Y.C. had messengers trotting the long half-mile from trainmaster to yardmaster in the classification yards at Niles, Michigan. Now, a metal carrier with a blast of air behind it high-balls the papers over there in a Grover Tube System—goes like a rocket, never forgets, never dallies, never turns up missing when wanted, always on the job, rain or shine, day or night. Saves plenty on cost, too, as you can well imagine.

Here's another instance: In the D. & R. G. seven-floor offices in Denver more than 6,000 messages are received and dispatched daily through a Grover 22-Station Tube System. Just think what it would cost in time and money to handle those messages by any other method!

Grover representatives can tell you what other railroad men think about the time-saving, money-saving advantages of a Grover System. Call your nearest Grover office or write for our new Railroad Bulletin.

GROVER

• PNEUMATIC TUBE SYSTEMS •

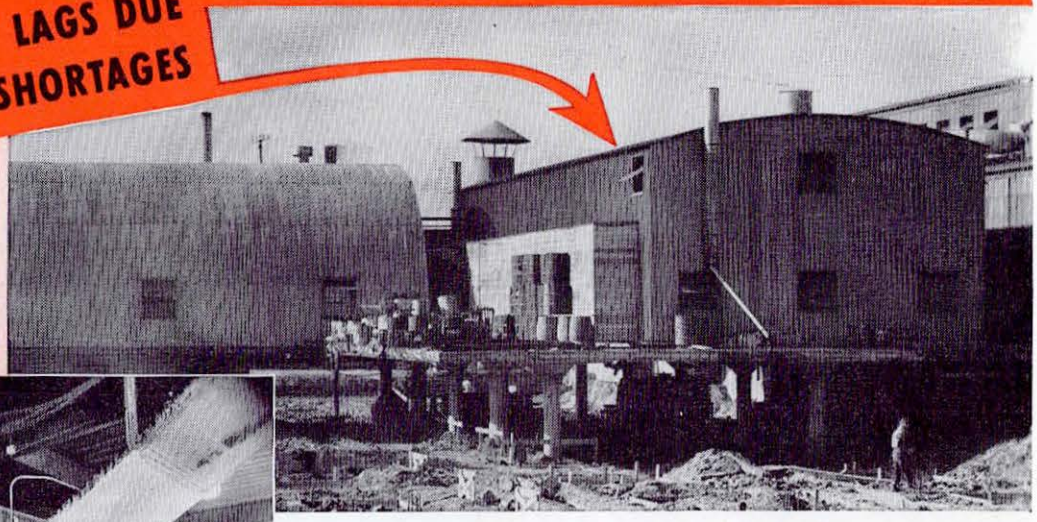
THE GROVER COMPANY • DETROIT 19, MICHIGAN

Offices in Principal Cities

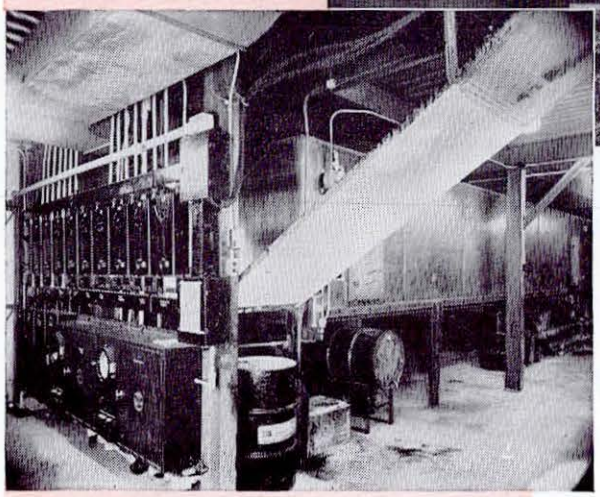
COMPLETE *Finishing* SYSTEMS

for ENAMEL • LACQUER • PAINT

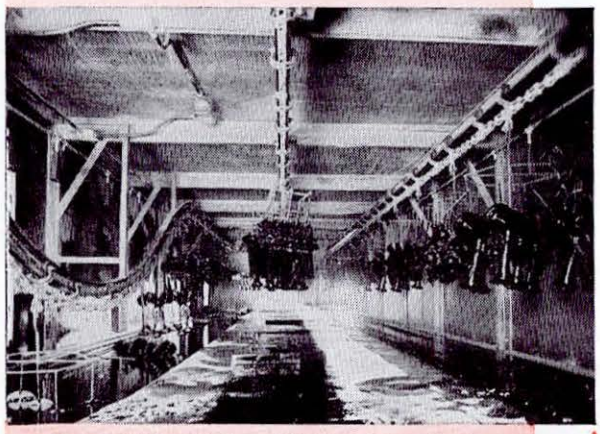
FINISHING SYSTEM INSTALLED AND IN OPERATION, WHILE EXPANSION CONSTRUCTION LAGS DUE TO MATERIAL SHORTAGES



At Right: Completely Housed-in Finishing System Installed by Mahon at Bay Mfg. Division of The Electric Auto-Lite Co., Bay City, Michigan.



Interior of Mahon Dip Enamel Finishing System at Electric Auto-Lite, Showing Control Panel, Dip Tank and Drip Enclosure. Ovens are located above.



Interior of Mahon Dip Enamel Finishing System Showing Dip Tank and Drip Enclosure—Part of the Complete Finishing System at the Electric Auto-Lite Co., Bay Mfg. Division.

AT Bay Mfg. Division of The Electric Auto-Lite Co., new finishing and plating equipment was necessary, but plant space was not available to house the new equipment. Plant expansion construction, already under way, was delayed due to material shortages. The Mahon organization designed and installed a complete dip enamel finishing system adjacent to existing manufacturing buildings, and housed it in—the housing becoming an integral part of the system. It is so designed as to remain intact when new construction is completed—the present housing will become the finishing room enclosure in the new building. This finishing system is very compact, and consists of a six stage metal cleaning and rust proofing machine, a dry-off oven, a dip tank and drip enclosure, baking oven and conveyor—all controlled from one panel-board which groups all control switches, safety devices and recording instruments. If you are confronted with a finishing problem, at the present time, or are contemplating new finishing equipment in the near future, call on Mahon now . . . twenty-seven years of experience, constant research and pioneering development, in this highly specialized field, have endowed Mahon engineers with a wealth of technical knowledge and practical know-how not available to you elsewhere. See Mahon Insert in Sweet's Mechanical Industries File for complete information.

THE R. C. MAHON COMPANY

HOME OFFICE and PLANT, Detroit 11, Mich. • WESTERN SALES DIVISION, Chicago 4, Ill.

Engineers and Manufacturers of Complete Finishing Systems including: Metal Cleaning Machines, Rust Proofing Machines, Dry-off Ovens, Hydro-Filter Spray Booths, Filtered Air Supply Units, and Drying and Baking Ovens. Also Paint Reclaiming Units, Hydro-Foam Dust Collectors, and many other Units of Special Production Equipment.

MAHON

This engine house is part of a new terminal built by the Baltimore and Ohio Railroad at East St. Louis. Everything is completely modern and up-to-date . . . built for economy, efficiency and permanence. So what material was used for the roof trusses, purlins and roofing? *Koppers Fire-retardant wood, of course.*

Engineers are making extensive use of Koppers Fire-retardant wood, not only in engine houses where fire hazard is always present, but as an *extra measure of protection* in other structures as well. Effectiveness in retarding both the spread of flame and the generation of smoke and fumes has been dramatically confirmed in a number of fires in buildings where the material was used.

In one typical instance, a lacquer fire that warped and melted metal lighting fixtures was easily extinguished and produced only a shallow char in the wood, *insufficient to require any replacement.* Observers have agreed that the fire-retardant wood was responsible for preventing a disastrous fire, with possible complete loss of the building.

Koppers conveniently located plants are equipped to treat your lumber and timbers with CZC(FR) for fire retardance (this treatment also confers high resistance to decay and termites) or with any other recognized preservative. If desired, members can be preframed to blueprint, and delivered to you all ready for assembly on the job. Get full details—ask for new bulletin, just off the press, "Koppers Fire-Retardant Wood."

K
KOPPERS

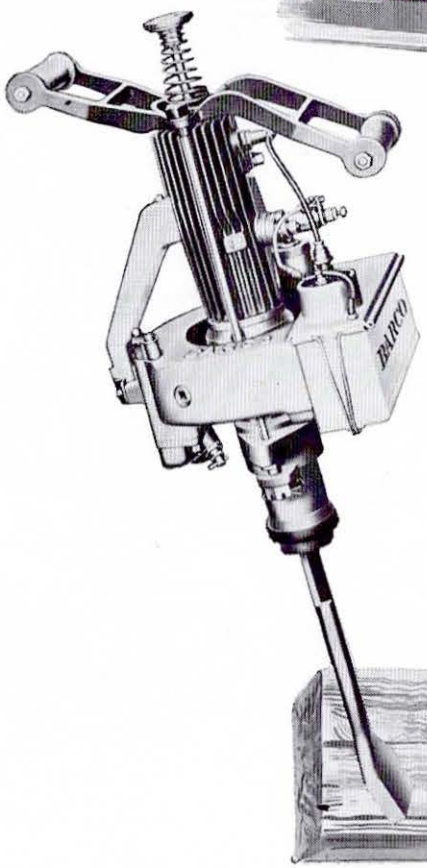
PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC.

PITTSBURGH 19, PENNSYLVANIA

HOW TO CUT MAINTENANCE COSTS . . .

A 10-Year Record!

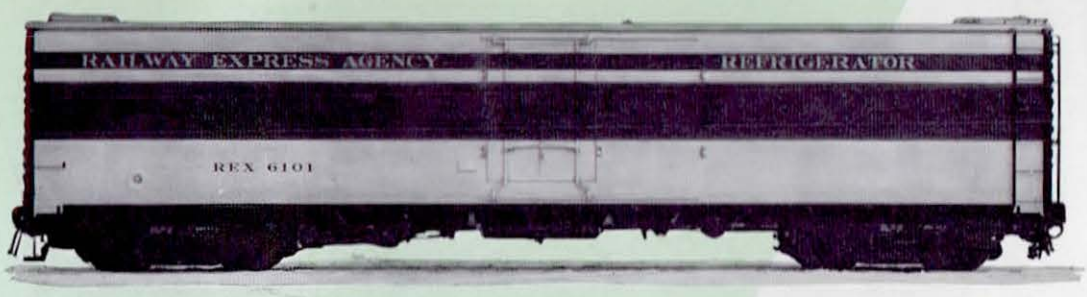


MECHANIZE WITH A BARCO

With thousands of Barco Tytampers at work, railroads big and small are calling for more of these work-and-money savers. One maintenance-of-way engineer went a full month ahead of schedule by July when he added Barco. Ballast under a Barco-tamped tie is firmly and uniformly packed for the full width of the tie, and is less subject to unequal compression from passing trains. It's a 10-year record! For complete information write to Barco Manufacturing Company, 1800 Winnemac Ave., Chicago 40, Ill. In Canada: The Holden Co., Ltd., Montreal, Can.

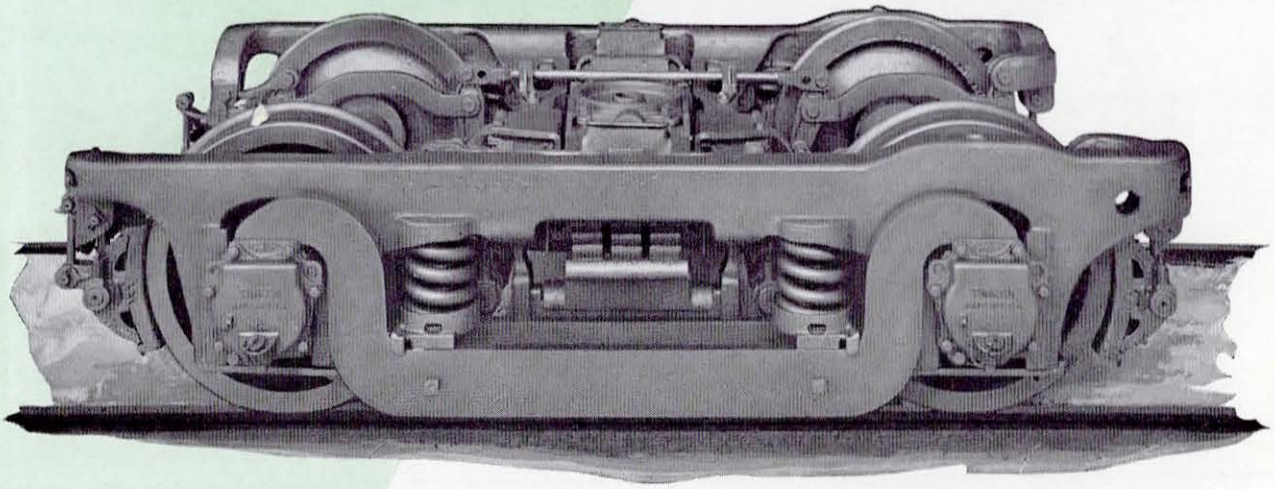
BARCO UNIT TYTAMPERS

500 Cars for Railway Express Agency, Built by American Car & Foundry.

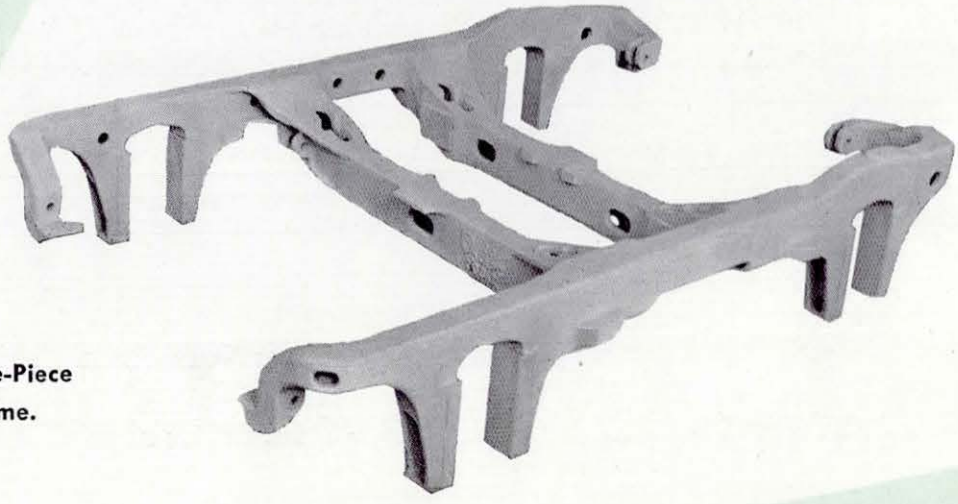


550 New High Speed

EQUIPPED WITH Commonwealth



Commonwealth Express Car Truck Arranged for Clasp Brakes & Roller Bearings.



Commonwealth One-Piece Cast Steel Truck Frame.

50 Cars for Atlantic Coast Line, Built by American Car & Foundry.

Express Refrigerator Cars

Passenger Type Trucks

For safe operation and protection of lading in transit, **these high-speed refrigerator and merchandise express cars are equipped with COMMONWEALTH passenger-car type equalized, swing-motion trucks with minimum wheel-base. They were especially designed to meet the demand for practical light-weight trucks for head-end cars operating in streamline passenger train service up to 100 miles per hour.**

The basic principles of passenger car truck design have been followed, including bolster springs and long-travel equalizer coil springs to absorb vibration and shock. This modern truck has a COMMONWEALTH one-piece cast steel truck frame, bolster, and spring plank, providing great strength with less weight, long service life and low maintenance cost.

Better, smoother performance is assured at all speeds with protection to car contents, car body and track structure.

GENERAL STEEL CASTINGS

EDDYSTONE, PA. • GRANITE CITY, ILL.

what's your need in SIZE?

Globe seamless steel tubing is made hot finished and cold drawn in alloy and carbon steels in sizes from ½ inch to 6⅝ inches outside diameter.

Globe seamless stainless steel tubing is available in tube sizes from ½ inch to 6⅝ inches outside diameter and in pipe sizes ⅛ inch to 6 inches, standard, extra strong and double extra strong weights.

Gloweld (electric welded) stainless steel tubing may be had in sizes ranging from ⅜ inch to 4 inches outside diameter inclusive, and in standard weight pipe sizes ⅛ inch to 2 inches, inclusive.

Your tubing needs may lie somewhere within the above ranges — whatever your requirements, Globe is qualified by experience and facilities to supply you with tubing of the quality and uniformity you demand.

GLOBE STEEL TUBES COMPANY, Milwaukee 4, Wisconsin

GLOBE TUBES

★ STAINLESS STEEL TUBES ★ PRESSURE TUBES ★ GLOBEIRON TUBING ★ GLOWELD TUBES
★ CONDENSER AND HEAT EXCHANGER TUBES ★ MECHANICAL TUBING

5025

Magor

FOR

DESIGN AND MANUFACTURE

FREIGHT CARS

AUTOMATIC AIR DUMP CARS

MAGOR CAR CORPORATION

50 CHURCH STREET, NEW YORK 7, N. Y.

Because it LASTS LONGER

NAILABLE STEEL FLOORING for boxcar use is ribbed to minimize the weight of steel needed for high resistance to surface deflection. Channels are coated with a tough, non-spalling composition that fills the rib depressions providing a level, skid-resistant surface.

*NAILABLE STEEL FLOORING

Cuts Railway Operating Costs... Relieves Shippers' Car Supply Problems

How often must shippers kick cars out empty because the floors aren't good enough for the particular outbound lading? How much time and money is spent switching boxcars—to spot them for loading according to the floor condition? The answers are *too often* and *too much*—because wood floors in most cars soon become damaged and car classifications must be reduced. Then cars must be shunted around empty until a load is available for which the floor is suited. This extra switching of Class B cars and rough-freighters not only cuts into shippers' car supply—it raises railway operating costs.

NAILABLE STEEL FLOORING eliminates much of this extra switching because it stays in Class A condition *longer*. It isn't damaged by nailing, pinch bars, abrasive freight or loading equipment. It has the strength to support the largest fork trucks used in boxcars. NAILABLE STEEL FLOORING is built to last as long as the car itself and stay in Class A condition during that time. Here is an all-purpose floor that *stays* that way, that can make major savings in operating expenses and provide substantial relief for car supply problems.

YOU SAVE 3 WAYS

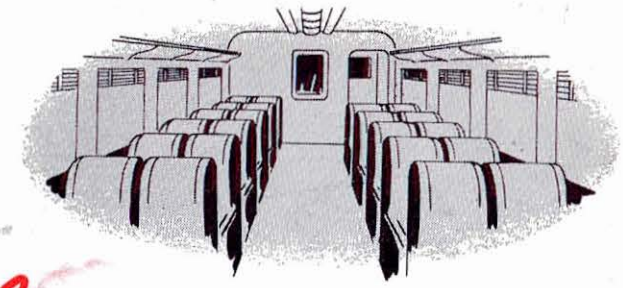
In boxcars, flats and gondolas, the long life of NAILABLE STEEL FLOORING means lower repair and replacement costs as well as lower operating costs. And because it holds nails tighter and won't splinter, goods are safer on NAILABLE STEEL FLOORING. It saves you money in three ways—in operations, maintenance, and damage claims.

NAILABLE STEEL FLOORING
A GREAT LAKES STEEL PRODUCT

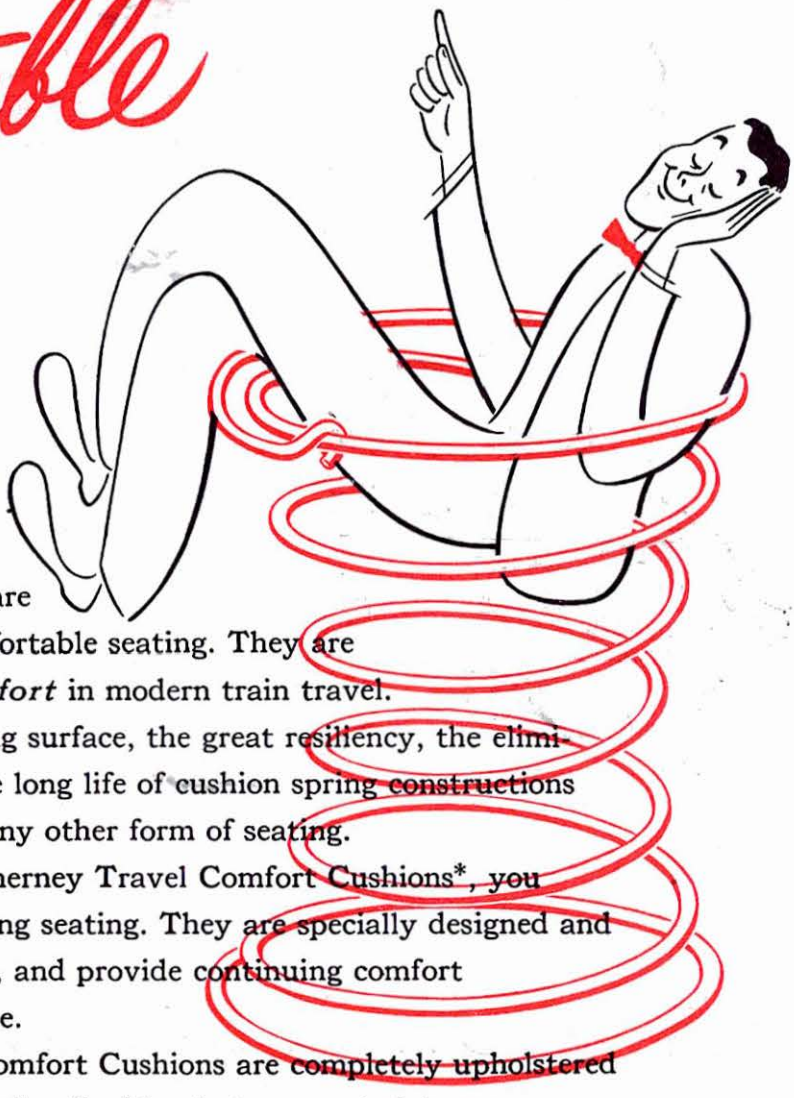
*PATENTS PENDING

GREAT LAKES STEEL CORPORATION

STEEL FLOOR DIVISION, PENOBSCOT BLDG., DETROIT 26, MICHIGAN
UNIT OF NATIONAL STEEL CORPORATION



NOTHING IS SO *Comfortable* AS STEEL



Impartial authorities concur . . . steel springs, in properly designed cushion constructions, are essential to permanently comfortable seating. They are *essential to sustained comfort* in modern train travel.

The pleasantly soft riding surface, the great resiliency, the elimination of road shock and the long life of cushion spring constructions deliver more comfort than any other form of seating.

When you choose McInerney Travel Comfort Cushions*, you get the best in cushion spring seating. They are specially designed and engineered to fit your cars, and provide continuing comfort throughout the longest ride.

McInerney Travel Comfort Cushions are completely upholstered and covered by expert "tailors" with whatever materials you prefer, and delivered to you ready for installation.

Travel Comfort Cushions assure your passengers of the highest degree of mile-after-mile riding pleasure. They are *fully guaranteed*.

TRAVEL COMFORT CUSHIONS

McInerney

• TO MEET YOUR SEATING NEEDS

McInerney engineers are ready at all times to render sound counsel and prompt service.

*TRADEMARK REGISTERED U. S. PATENT OFFICE

SPRING & WIRE COMPANY

661 GODFREY AVENUE, S. W. • GRAND RAPIDS 2, MICHIGAN

Write today for Pittsburgh's new booklet which lists its complete line of Railway Structural Maintenance Finishes. Included are many practical suggestions for their efficient, economical use.

Many of America's Leading Railroad Lines Depend Upon

PITTSBURGH RAILWAY FINISHES

CONTINUED preference for Pittsburgh Railway Finishes by many of America's foremost railroad systems must be considered an unusual tribute to their high quality. For these companies have found that Pittsburgh Finishes can be counted on not only to give maximum protection but also to add to the appearance of rolling stock and fixed properties. Call on us for advisory service. Our wide experience in this field often can save you time and money.

PITTSBURGH RAILWAY FINISHES FOR EVERY NEED:

CARHIDE—for wood and metal freight cars of all types.
LAVAX SYNTHETIC ENAMELS—for locomotives and passenger cars.
STATIONHIDE—to add beauty and comfort to stations.
IRONHIDE—for iron and steel structures.
SNOLITE—for signs, fences, cattleguards and crossing gates.

PITTSBURGH PAINTS

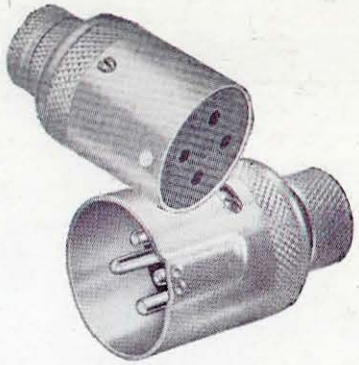
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

DURABLE • DEPENDABLE

PYLE-NATIONAL

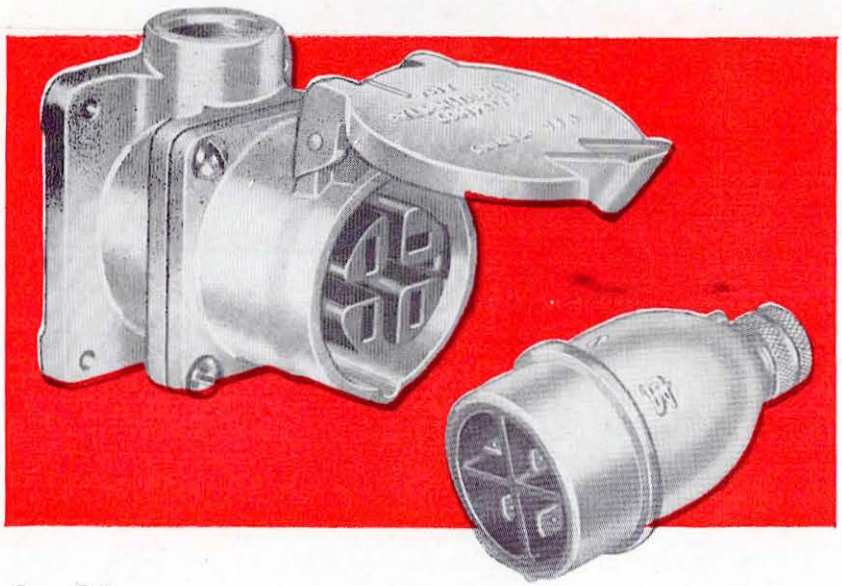
Heavy Duty Plugs and Receptacles



1, 2, 3, 4, 6, 8 pole interchangeable contact units

FOR PORTABLE ELECTRICAL EQUIPMENT

Pyle-National plugs and receptacles are built to withstand the most severe operating conditions, as proven by years of remarkably dependable service in a wide variety of industrial applications. The many substantial construction features of this extensive line of plugs and receptacles and the high quality of materials and workmanship insure safe operation, uninterrupted service and long life.



QuelArc • ***Circuit Breaking Series*** Unique partitioned insulation provides long insulated paths through air and across surfaces for exceptional protection in these current rupturing devices. Galvanized cast metal housings, bakelite insulation and individually renewable contacts insure long service life. Ratings 20, 30, 60, 100 and 200 amperes, 250 volts DC, 600 volts AC—2, 3, and 4 pole—grounded through shell or extra pole. Threaded cap, plain and hinged spring door housing styles are available.

Triploc ***and Multiple-Circuit Series*** A line of exceptional versatility, unequalled in the heavy duty field, with a virtually unlimited number of assembly combinations for varied applications. Offers a selection of 1, 2, 3, 4, 6 and 8 pole contact units which are interchangeable and reversible in any single set of housings. Many types of single housings available of pressed steel with automatic lock and of cast metal threaded for watertight gasket seal. Multi-Circuit housings—2, 3 and 4 gang—available for combinations up to 32 poles. Ratings 15 and 20 amperes, 250 volts DC, 460 volts AC—circuit breaking. Pressed steel fusible and fuseless plugs measure $1\frac{13}{16}$" outside diameter.

Midget Triploc ***Series*** Same construction features as Triploc except for much smaller outside diameter of plug shell—only $1\frac{1}{4}$". Interchangeable and reversible contact units—2, 3 and 4 pole—are of the flat blade type. Rated 10 amperes, 250 volts; 15 amperes, 125 volts.

2-Gang Receptacle

Fusible Plug

Fuseless Plug

General Purpose ***Series*** Available with cast metal housings in many types for circuit breaking and disconnect service. 30 amperes, 125 volts DC, 250 volt AC—1, 2, 3, 4, 5 and 6 pole. 60 amperes, 250 and 600 volts—3, 4 and 5 pole. 100 ampere, 250 and 600 volts—2, 3 and 4 pole. Also many special types, fusible and fuseless, for varied applications.

THE PYLE-NATIONAL COMPANY

1356 NORTH KOSTNER AVENUE, CHICAGO 51, ILLINOIS

Offices: New York • Baltimore • Pittsburgh • St. Louis • St. Paul • San Francisco • Cleveland

Export Department: International Railway Supply Co., New York • Canadian Agent: The Holden Co., Ltd., Montreal

SINCE 1897

CONDUIT FITTINGS • FLOODLIGHTS • TURBO-GENERATORS • LOCOMOTIVE HEADLIGHTS • MULTI-VENT AIR DISTRIBUTION

THIS MAN *Knows*

WHAT GOES ON BEHIND HIS BACK

When the engineman makes a brake application with "HSC" electro-pneumatic brakes, he knows the braking pressure on every car behind him. For the equivalent brake cylinder gage pressure is reproduced and automatically maintained on all cars in the train.

He can increase or decrease pressures quickly, by moving his brake valve handle forward or back. *He can approach restricted zones at a higher speed*, pick up faster when leaving them. He can handle the train smoothly with a consequent increase in passenger comfort.

This is just another of many features and advantages that recommend HSC brakes for your modern equipment. For the utmost in brake control, we recommend:

"HSC" Electro-Pneumatic Brake . . . for brake flexibility to match modern train speeds, and unequaled smooth action. Speed Governor Control . . . for regulating brake forces to wheel speeds. "AP" Decelostat . . . for wheel slip detection to keep the wheels rolling.

Westinghouse Air Brake Co.

WILMERDING, PA.

Vol. 124, No. 16 April 17, 1948

RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office.

IN THIS ISSUE

EDITORIALS:

Union Policy in Coal and Transportation 33
Keeping Earnings Prospects Favorable 34
Housecleaning the Fixed Properties 35
Repair Facilities Pay Surprising Investment Returns.. 35

NEW BOOK 52
COMMUNICATIONS 53
GENERAL NEWS 54
OPERATING REVENUES AND EXPENSES 78
REVENUES AND EXPENSES 80

GENERAL ARTICLES:

British Mobile Locomotive Testing Plant 36
Additional New York Railroad Link Under Study in New Jersey 39
January Buying Up 8 Per Cent from Last Year 41
Japanese Railways Need New Equipment, by Howard G. Hill 43
Builds Better Yard at East St. Louis 46
$1,909 Million Spent for Materials in 1947 51

Published each Saturday by the Simmons-Boardman Publishing Corporation, Orange, Conn., with Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 105 W. Adams Street, Chicago 3, Ill.

Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Seattle 1: 1033 Henry Building—San Francisco 4: 300 Montgomery Street, Rooms 805-806—Los Angeles 14: 530 West 6th Street—Dallas 4: 2909 Maple Avenue.

Samuel O. Dunn, Chairman and President. James G. Lyne, Executive Vice-President. Roy V. Wright, Vice-President and Secretary. C. Miles Burpee, F. C. Koch, R. E. Thayer, H. E. McCandless, S. Wayne Hickey, H. H. Melville, C. W. Merriken, Vice-Presidents, J. T. DeMott, Treasurer. Ralph E. Westerman, Arthur J. McGinnis, Assistant Treasurers.

C. Miles Burpee, Business Manager.

Subscriptions including 52 regular weekly issues, and special daily editions published from time to time in New York or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; other countries not including daily editions: in Western Hemisphere 1 year $10.00; 2 years $16.00; other countries 1 year $15.00; 2 years $25.00. Single copies, 50 cents each, except special issues.

H. E. McCandless, Circulation Manager, 30 Church Street, New York 7.

Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service.

PRINTED IN U.S.A.

TYPE E *CAB SIGNAL SYSTEM*

ENGINE-CARRIED EQUIPMENT

RECEIVER

Picks up, by induction, electric impulses from the current in the rails . . . transmits them to the control equipment box.

CONTROL EQUIPMENT BOX

Consists of a filter, amplifier, decoding units, relays, etc., to filter, amplify and decode the impulses from the receiver for control of the cab signal and whistle.

CAB SIGNAL

In plain view of the engine crew, the cab signal continually indicates track conditions ahead by means of color-light or position-light aspects.

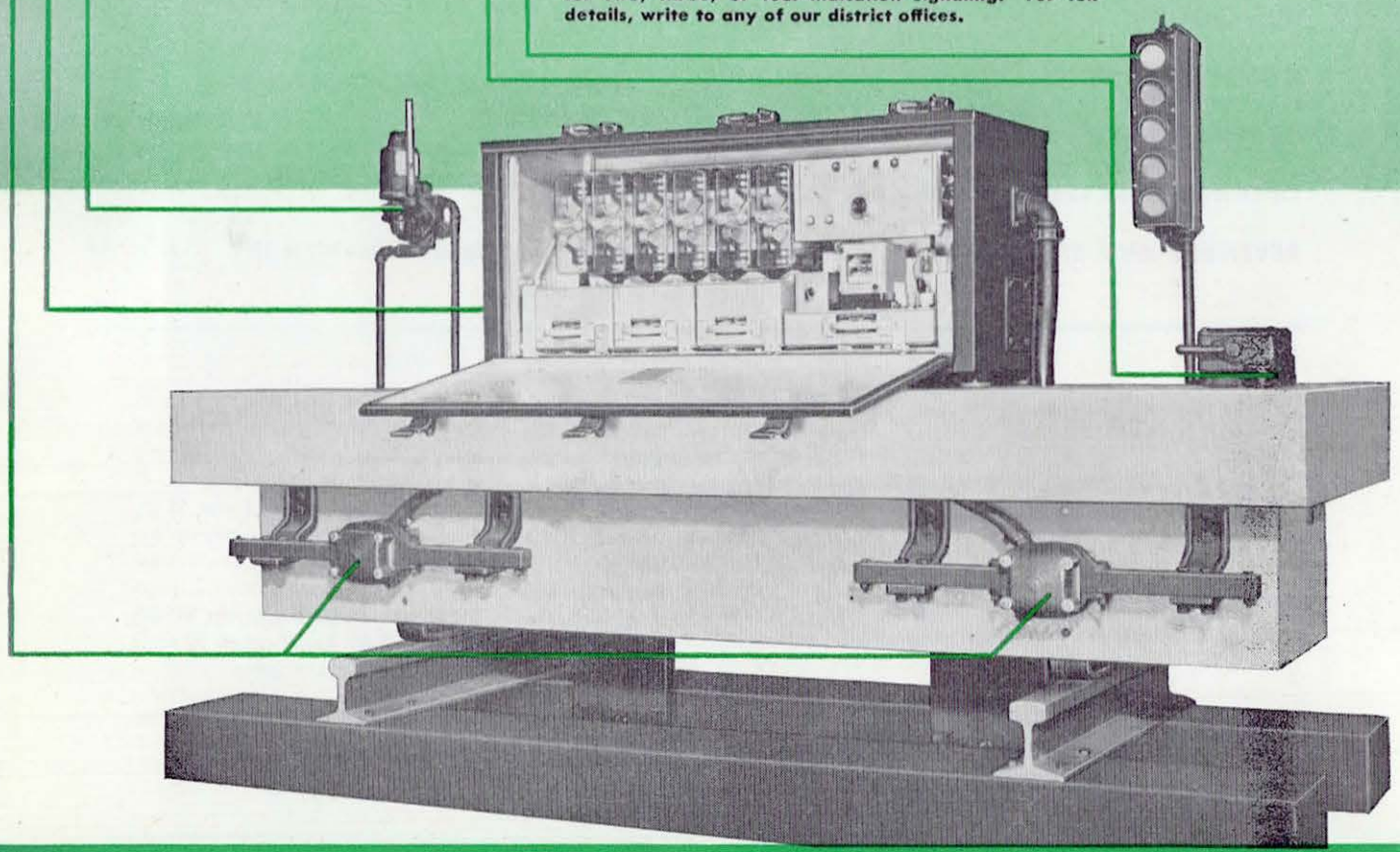
WHISTLE

Within hearing range of the engineman, the whistle sounds a warning whenever the cab signal changes to a more restrictive indication.

ACKNOWLEDGING SWITCH

Convenient to the engineman, the acknowledging switch provides a means for silencing the warning whistle.

"Union" Type E Cab Signal equipment can be furnished for two, three, or four-indication signaling. For full details, write to any of our district offices.



UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

YARD SPRUCED UP: After 16 years of disuse the Baltimore & Ohio's Cone yard at East St. Louis has been given a thorough going over, enlarging its capacity and providing it with up-to-date two-way communication facilities and a new engine terminal, planned to take care of freight Diesels when this B. & O. line swings completely to this type of motive power. The illustrated article on page 46 describing the project puts emphasis on the attention that was given to adapting the lay-out to handle many classifications with minimum delay to cars.

RAILROAD BUYING POWER: Articles in this issue summarize the outlays of the Class I roads in January of this year for equipment, materials and supplies (page 41), and their total expenditures for materials in 1947 (page 51). It is not surprising, in the light of data already published and of the almost universal increase in the prices of supplies and fuel, that the railroads' bills are bigger than ever before—last years purchases of materials and fuel amounted to $1,909 million, being larger than in any year in history. But the railroads need to spend still more, at present prices, to develop the fully modern plant and to obtain the new cars and locomotives postwar competitive conditions require. If the agencies in whose fostering care the future of the industry rests will permit them to earn enough money, above payrolls and fixed charges, the railroads will be in a favorable position to set a new record in purchases again this year.

COSTLY PROPOSAL: The planners have worked out another combination of tunnels and trackage which would make it physically possible to run commutation trains from New Jersey suburbs directly into a New York mid-city terminal, doing away with ferries and Jersey-shore passenger stations. The scheme is set forth in an article herein.

SECTION 77 BY-PASS: When President Truman last week signed the so-called Mahaffie bill, there was written into the Interstate Commerce Act a provision whereby railroads and their security owners can work out voluntary adjustments in corporate financial structures and modifications of maturities and fixed charges, subject to Interstate Commerce Commission jurisdiction, thereby, it is expected, reducing the necessity for companies in difficulties to resort to section 77 bankruptcy proceedings, and simplifying the escape of some already in the throes of judicial reorganization. An article in this issue's news columns outlines the provisions of the new legislation.

BRITISH TEST TRAIN: As a means of testing locomotive performance on the line at a succession of constant speeds, each maintained for a sufficient time for the results to be significant, the London, Midland & Scottish, before nationalization of the British railroads was effected, had developed dynamic braking units for operation in conjunction with a dynamometer car on lines of variable grades and other forms of resistance normally affecting train speed. While the recent war delayed the construction of the entire outfit, preliminary runs have been made with the completed units, the design and functions of which are outlined in an illustrated article in this issue.

COST OF LOBBYING. If any of the readers of brotherhood or anti-business publications have the idea that the railroads are pouring out millions to maintain a "lobby" in Washington, the quarterly report of expenses for legislative activities of the Association of American Railroads must be a disappointment of the first water. It is abstracted in our news pages.

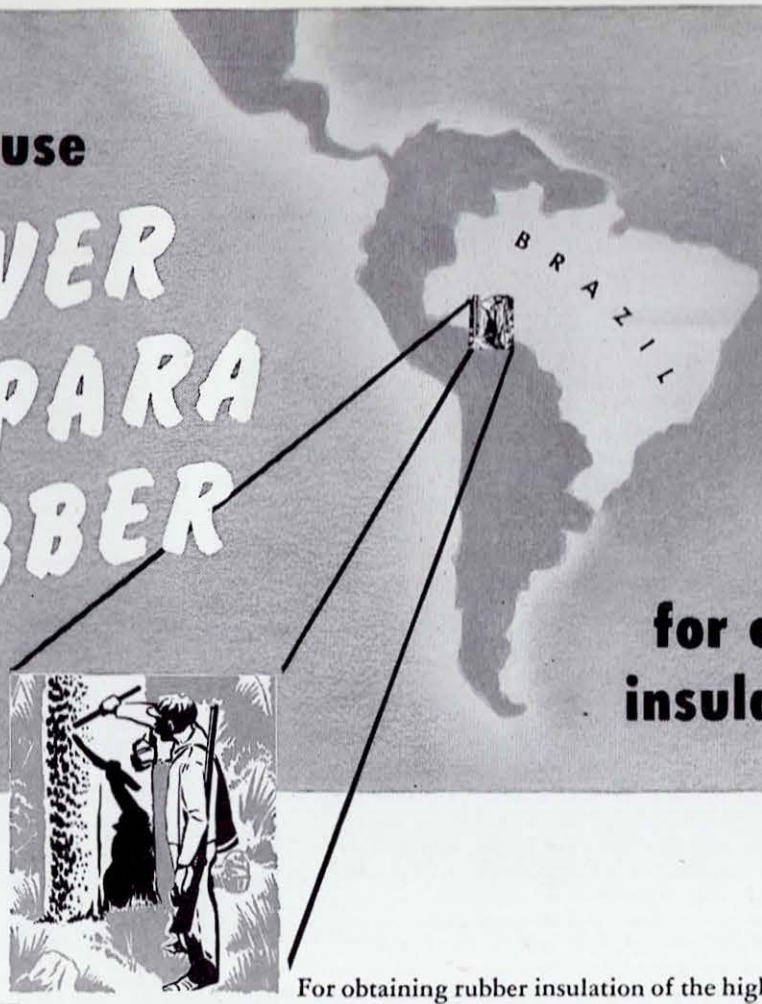
NEW DEMANDS: Without waiting for a final settlement of the claims of the three hold-out op brotherhoods for a bigger wage boost and more featherbedding than anyone else got last year, the non-op unions have served notice on the railroads that, come May 10, they consider themselves entitled to another increase in pay of 25 cents an hour, an 8-hour day, a 40-hour week, overtime pay for Saturday work, and double time on Sundays and holidays.

BORDERING ON COLLAPSE: Railroading in Japan differs in many ways from railroading in this country, reports Colonel Howard G. Hill, whose informative review of the facilities and equipment and operating practices he observed there forms one of our illustrated articles this week (page 43). Practically everything about the Japanese lines is worn out or obsolete, he finds, and a tremendous need for new equipment and track materials and shop machinery is apparent. How they can be paid for, unfortunately, has not yet been figured out.

A SHARED DISTINCTION: The peculiar talents of John L. Lewis for winning public attention to himself cannot be denied, but his ability to take advantage of the laws and the government's labor-appeasement machinery for his own ulterior purposes (notwithstanding an occasional brush with the courts) is not so exceptional. Our leading editorial calls attention to some other leaders of unions who, lacking the miners' dictator's love of the spotlight, enjoy equal power to tie the country's commerce and industry into knots at their convenience. Those leaders assume to speak for the employees of the railroads. It is possible that both the mine owners and the railroads eventually will be priced out of business unless there is an early and conclusive halt to the increase in the cost of producing what they have to sell in a competitive market. Since the union bosses refuse to be concerned about that dark prospect, the whole responsibility rests on management to avert it. Education of employees and education of the public will contribute immensely to the success of their endeavors.

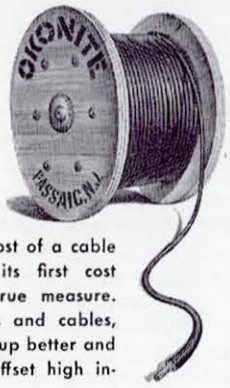
why Okonite continues to use

UP-RIVER FINE PARA RUBBER



for cable insulation

with today's installation costs* only the Longest-Lived will be economical



* The lifetime cost of a cable rather than its first cost is the only true measure. Okonite wires and cables, built to stand up better and longer, can offset high installation costs.

For obtaining rubber insulation of the highest dependability, Okonite researchers and independent authorities, too, remain convinced that only the highest grade natural rubber provides all the needed factors. That's why, in spite of its premium price, Up-river Fine Para rubber is still used by Okonite for insulating wires and cables.

Its long life is proved. Service records over the years establish this beyond question. It possesses greater uniformity, and accumulated data show it gives better aging qualities than plantation or any other type of rubber.

Okonite cannot afford to endanger its customers' best interests by sacrificing the known value of Up-river Fine Para rubber for the lower-cost synthetic rubbers which have no extended service record. Experience has shown that accelerated aging tests, however promising, are not a sound basis for judging the life of products having different components.

Published evidence demonstrates that synthetic rubbers — no matter how well compounded — give inferior results in 2 or more of the following essential characteristics: elongation, tensile strength, insulation resistance, power factor, effect of moisture on electrical properties, consistent and stable electrical values.

Find out more about the steps Okonite engineers are taking to build true value into cables. The selection of rubber is only one of many described in Research Publication RA-101. Address The Okonite Company, Passaic, N. J.

6448

OKONITE OKONITE SINCE 1878 **insulated wires and cables**

THE BEST CABLE IS YOUR BEST POLICY

RAILWAY AGE

EDITORS . . .
Samuel O. Dunn and James G. Lyne
MANAGING EDITOR . . .
Roy V. Wright
ASSISTANT MANAGING EDITOR . . .
C. B. Tavenner
WESTERN EDITOR . . .
Neal D. Howard
WASHINGTON OFFICE . . .
Walter J. Taft
Sherman Davis
TRANSPORTATION DEPARTMENT . . .
William H. Schmidt, Jr.
Robert G. Lewis
MECHANICAL DEPARTMENT . . .
C. B. Peck
E. L. Woodward
H. C. Wilcox
C. L. Combes
G. J. Weihofen
ENGINEERING DEPARTMENT . . .
M. H. Dick
Walter L. Turner, Jr.
Henry E. Michael
Norris V. Engman
PURCHASES & STORES DEPARTMENT . . .
John W. Milliken
EQUIPMENT & FINANCIAL NEWS . . .
Fred C. Miles
SIGNALING AND COMMUNICATIONS DEPARTMENT . . .
John H. Dunn
Maurice Peacock
ELECTRICAL DEPARTMENT . . .
Alfred G. Oehler
WESTERN NEWS DEPARTMENT . . .
George R. Johnson
ASSOCIATE EDITOR . . .
Charles Layng
LIBRARIAN . . .
Edith C. Stone
EDITORIAL ASSISTANT . . .
Elaine C. Farrar

UNION POLICY IN COAL AND TRANSPORTATION

The railroads — including members of their unions as well as their owners and customers—have suffered greatly from the prolonged coal strike, which the miners' chief, John L. Lewis, this week graciously consented to terminate. Many railroad men, including organized employees, are inclined to be critical of Mr. Lewis for the damage this strike has done to them and to the country. But an industry which has to tolerate the degree of domination that the railroads do from aggressive union leadership is in a poor position to be very critical of union behavior in the coal industry.

Mr. Lewis does not like the labor law under which he is required to operate, so he either finds loopholes in the law or flagrantly violates it (which of the two phrases describes his conduct being a question for the courts to decide). Similarly, on the railroads, there are union leaders who do not like some of the provisions of the labor law under which they operate, so, like Mr. Lewis, they too refuse to abide by its provisions—in spirt, even though they do not often flout them literally. So far, unlike Mr. Lewis, the railway unions which have elected to defy the intent of the law (e.g., in the 1946 strike) have come off quite unscathed—and their law is a much more lenient one than the Taft-Hartley law. Mr. Lewis did not write the Taft-Hartley law. The railway labor leaders did, in effect, write the Railway Labor Act.

Right now the leaders of three of the railway unions have rejected the award of an "emergency board," named under the Railway Labor Act, and threaten to take coercive action unless the railroads agree to grant larger concessions than the emergency board has found to be justified. The law does not expressly forbid strikes after the routine of the Railway Labor Act has been followed, as it has been in this case, but the spirit of the act certainly contemplates that disputants will abide by emergency board decisions unless some compelling reason can justify failure to do so. The weight of the evidence is overwhelmingly against the existence of any such excuse in this case, because the emergency board decision followed the pattern of wage adjustments which all other railway unions accepted voluntarily or under arbitration, with no trace whatever of compulsion.

There is nothing furtive or clandestine about John L. Lewis. When he wants something, he goes directly after it with the spotlight of publicity in full play upon his action. If the people do not approve his behavior, they are given every opportunity to know what he is doing—and thus to make known their opinion of him. He wanted a more liberal helping for his members out of the coal industry's pension funds, so he demanded and got it directly from the employers. The railway unions in 1946 cast a similarly covetous eye on the huge

fund which had been accumulated under the discriminatory level of taxation levied upon the railroads for the relief of unemployment—and they raided the fund by successful unilateral legislation known as the Crosser Act. Congressman Crosser has additional legislation of this kind now pending for the further distribution of railroad "social security" resources.

The railway unions, or some of them at any rate, indicate by their behavior that they join Mr. Lewis in believing that justice is "the will of the stronger," and they proceed to take what they want—the difference being that Mr. Lewis operates in a blaze of publicity while the railway unions proceed as unobtrusively as possible. Economically and morally, there is little to choose between them, except that Mr. Lewis is more forthright.

Both Mr. Lewis and the railway unions are taking advantage of a period when fuel and freight transportation—of any kind—are in short supply, to establish high labor costs in the mines and on the railroads. As long as the demand for fuel and transportation exceeds the supply, these union activities can largely achieve their objective without serious effect on mine or railroad employment. When there is once more a "buyers' market" in fuel and freight transportation, however, (as there is already in passenger transportation), followers of such labor leaders will come to a painful understanding of the meaning of the phrase "pricing themselves out of the market."

Management has a responsibility to employees, no less than to owners and customers, to resist to the utmost further exactions by short-sighted union leadership; and to press for such changes in labor legislation as are necessary to give them the opportunity to resist successfully. There need, however, be nothing bad-tempered about such resistance. This issue can be honestly and fully explained to employees in terms of their own long-term self-interest. Experience does not indicate that, to enjoy amicable labor relations, management has to cave in quickly before every demand upon it.

PROGRESSION

Britain has taken another step in its progression toward the abolition of private capital and the free enterprise system. Its government now proposes a capital tax that is confiscation with a vengeance.

We have never been deluded by the rosy theory that this British socialism could be some middle road between a free society and complete statism. Once a community embarks on the way of state socialism there is no stopping place short of complete oblivion for individual economic freedom. The obliteration of private capital in England may come more slowly than in, say, Russia, but it seems to be coming just as relentlessly.

The taxing power is the present instrument of destruction. The new British budget proposes a tax on investment income which can be greater than the income itself. For instance, a £50,000 investment income would pay the regular tax of £45,000 and in addition a new special tax of £24,000. In short, the government not only taxes all the investor's income but £19,000 besides.

In such an air private capital cannot long exist. What can will flee. What cannot, will be swallowed by the state. There will be no new capital except what the state acquires by taxing. And as private capital dwindles the state must inexorably levy more and greater taxes.

What can the end of such a progression be but a society in which there is nothing except what belongs to the state?
—*The Wall Street Journal*

KEEPING EARNINGS PROSPECTS FAVORABLE

Most of the railroads are going to report quite unsatisfactory earnings for March, of course, because of the coal strike—and many of them did not do so well in January and February. In the first two months, net railway operating income was about 20 per cent under that of a year ago. However, a check of the earnings reports of individual Class I railroads appearing elsewhere in this issue reveals that almost half of them earned *more* net railway operating income in the first two months of this year than they did in 1947.

From here on out the earnings outlook, barring a third round of wage increases, appears much brighter—a prospect that the stock market is reflecting in average prices for railway stocks which are higher than at any time since the late summer of 1946. Much depends, of course, on the final disposition which the Interstate Commerce Commission makes of the freight-rate increase application. A possible temporary aid to passenger revenues may come from the shortage expected this summer in gasoline. There is no indication of any lasting recession in freight traffic. The shippers' boards, as reported in our April 3 issue, expect a 3.5 per cent increase in loadings in the second quarter. It is hard to find a business economist who foresees any let-up this year in the production of most of the commodities the railroads haul.

The railways' earnings prospects, in short, are quite favorable—for as far ahead as it is safe to predict, these days. One of the principal reasons that they are favorable is that the railroads' customers have seen the necessity, in their own interest, of permitting the railroads to earn enough to keep their properties and their service adequate and up-to-date. It seems quite likely that the capital expenditures of the railroads in 1947, at the highest level in 17 years, may have played a significant part in establishing the customer attitude which makes 1948 earnings prospects as favorable

as they are. There probably is no more dependable way of inducing the public to see the value, to it, of reasonably attractive railroad earnings than to call continuous attention to the close connection which exists between what the railroads are allowed to earn, and the sums which they spend for enlarged and improved plant and equipment.

HOUSECLEANING THE FIXED PROPERTIES

While much of the work of the engineering and maintenance-of-way forces is necessarily seasonal because of weather conditions, one item which should be continuous throughout the year—but too often isn't—is that of getting rid of all obsolete, little-used or abandoned facilities. Even where this fact is fully appreciated, there are often "reasons" in one department or another why an unused or little-needed switch, siding, water plant, station or other facility should not be removed, with the result that hundreds of unnecessary items are carried on the books, eating into net income through otherwise avoidable taxes, insurance charges, maintenance expense and, often, operating costs.

Back in the Thirties, the railroads became quite "retirement-conscious," with the result that thousands of unnecessary units of property went to the scrap heap on nearly every road. That was one benefit that came out of those trying years, but its full value will have been lost if the lesson then learned is not made to stick by continuous application.

That at least one road has not dozed off in this matter since the urgency of the depression is seen in the fact that, since 1938, while constantly improving its services, this road has retired 397 mi. of unproductive branch lines, 708 mi. of unnecessary sidetracks, 264 freight and passenger stations, 800 other station buildings, 392 enginehouse stalls, 678 other shop buildings, 142 fuel and water stations, 759 signals (in large part as the result of respacing), 1,469 mi. of right-of-way fence, and 1,405 other miscellaneous structures. And 1947's retirements were equally as impressive as those of earlier years.

Retirements of fixed property on any progressive railroad are as inevitable as the retirement of worn-out box cars — as the construction of new facilities. In fact, lack of continuing retirements may be a sign of stagnation or retrogression, especially in these days of change in transportation. Spring, with the universal urge it brings to clean house, should be a good reminder of this important detail of sound railroad practice.

REPAIR FACILITIES PAY SURPRISING INVESTMENT RETURNS

The railroads have always been the object of criticism from many people connected with manufacturing and industrial engineering for the manner in which they have retained a wide variety of mechanical facilities in car and locomotive shops and enginehouses in service long after they have reached the end of their economic life.

Probably the greatest criticism has been directed at the investment in machine tools and related equipment in locomotive repair shops. It has been estimated that this investment has a present book value of somewhat between $300 and $400 million and that more than 75 per cent is obsolete and poorly suited to present-day needs. Whether or not this is true is difficult to prove.

To quote one railroad officer, "it would cost more money to find the answer than could be saved by the use of the information if the answer was known."

This may, or may not, be the real reason why no general effort has ever been made in the railroad industry to study the potential economies that might be effected by the modernization of car and locomotive repair facilities as a large-scale program. But if those who are responsible for financing improvements and the managements of the railroads today are not fully aware, under present-day labor conditions and costs, of the opportunities for large-scale savings, it is either because mechanical officers are poor salesmen in their dealings with top management or because top management itself has failed to set up the necessary organization to find out what could be accomplished.

Here's just one example of what we mean: One large road, about seven years ago, put a trained shop engineer on the job to find out where and how savings could be effected. At the end of last year that road had invested approximately $2 million in new machine tools and shop equipment and the accumulated savings as a result of that two-million-dollar investment were a few dollars under *$3 million.*

Furthermore, of all the individual items of equipment involved in the modernization program there was not one that would require a total amortization period of more than 61 months and some were only 36 months.

Of all the large railroads in the country there are probably not a dozen where a wide-awake shop-engineering department could not make similar savings. Mechanical officers continue to find themselves in the position of having more and more new and complicated equipment given them to maintain "with what they've got" of obsolete and inadequate shop tools and facilities.

BRITISH MOBILE LOCOMOTIVE TESTING PLANT

One of the test trains. The mobile testing unit is coupled to the tender. The dynamometer car is next. The structure on the front of the engine carries a cup anemometer and vane whereby the speed and direction of the wind are electrically recorded on the dynamometer chart

L.M.S. develops a test train consisting of dynamometer car and three dynamic braking units for maintaining uniform speeds over variable profile

It has been the custom for many years on the London Midland & Scottish* to test locomotives by means of a dynamometer car, interposed between locomotive and cars, which records on a moving chart speed, tractive force, and units of work done. These tests have been carried out under ordinary running conditions on the line, in which the speed varies from point to point according to the natural variations of gradients and other forms of resistance. The results so obtained, usually stated as the coal and water consumed per drawbar horsepower-hour, clearly only give a result which is an average of all the changing conditions experienced throughout the run. Rigidly accurate comparisons could not therefore be made, but results of sufficient practical accuracy for design policy purposes have been obtained, provided the comparisons were made over the same route and with the same weight of train.

With the narrowing down of the economies to be obtained from further technical progress a more accurate means of locomotive testing on the line has become necessary, and to this end means have to be found of working the test engine at a succession of constant speeds, each of which has to be held for an appreciable period of time. An inherent difficulty in this is the maintenance of reasonably constant conditions over a sufficient length of time to enable reliable observations to be recorded.

In certain countries, such as Germany, Poland and Russia, long stretches of practically level and straight track exist over which tests can be carried out under such conditions, using compression brakes or other means to ensure constant speed. In Great Britain, however, such facilities are difficult to obtain.

On the L. M. S., for example, there is no suitable stretch of line for carrying out tests of this kind; the best section available is probably between Euston (London) and Rugby, but the profile of this line is such that it would be difficult to maintain constant speed for any length of time, even by the use of braking locomotives.

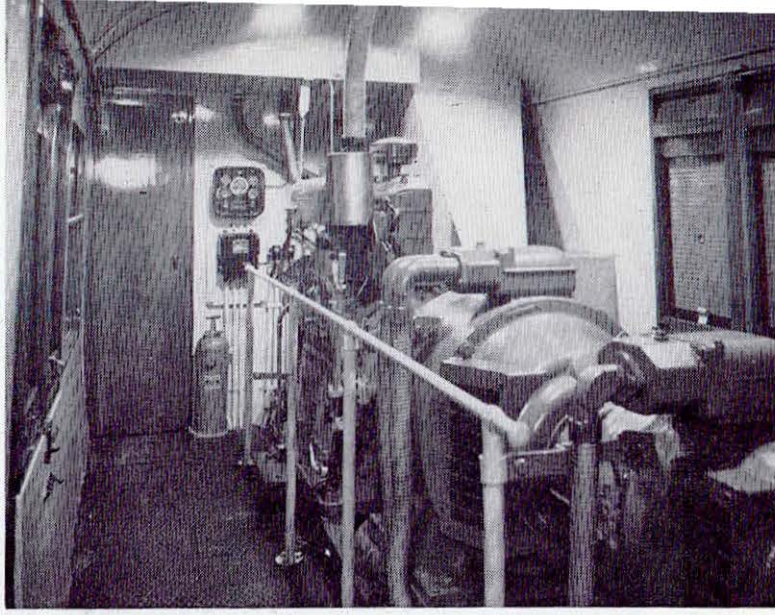
Three Braking Units

Constant working conditions of a locomotive could be maintained on undulating track if the resistance of the train could be immediately adjusted to compensate for the effects of gradients, curves, etc., when the equivalent of straight and level track would be obtained. It was found on investigation that this could be done by the use of electric locomotives with rheo-

*Absorbed January 1 by the British Railways as provided by the law nationalizing that country's transportation.

static braking having a very sensitive form of control that would maintain an exactly constant speed irrespective of changes in the drawbar pull of the engine or the resistance of the track.

A new test train, known as a mobile testing plant, was authorized in 1936, comprising a special tender, a dynamometer car and three braking units. Each of the braking units is, in effect, an electric locomotive designed for braking instead of pulling, and capable of absorbing up to 1,500 hp. These three units are quite similar in design except that they have different gear ratios for testing different classes of locomotives and have maximum speeds of 50, 90, and 120 m. p. h., respectively. They may be used singly or in any combination and, together, will give a maximum braking effort of about 51,500 lb. The master controls for all three braking units are mounted in the dynamometer car, which thus serves both as an independent vehicle for controlling the braking units and to measure the speed and drawbar pull of the locomotive.

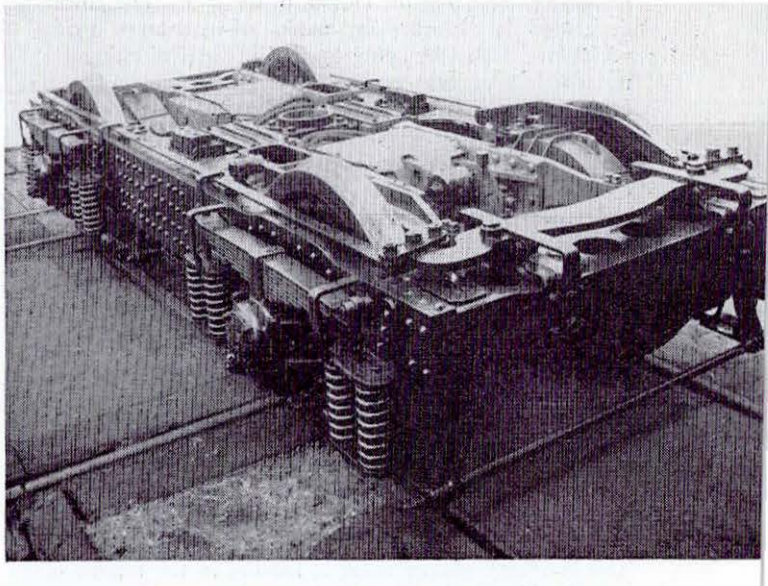


Interior of the auxiliary engine room located in the middle of each braking unit

Used During the War

The three braking units were practically completed in 1939, and used during the war as emergency power generators; they were being reconditioned last summer. At that time the tender and the dynamometer car were uncompleted, but tests are already being carried out using the low-speed unit and the road's No. 1 dynamometer car, which is being equipped with the master controls and other necessary apparatus.

The special tender, which can be attached to any locomotive of standard type, is intended for measuring the rates of consumption of coal and water during the test. Three long tons of coal, previously weighed out into hundredweight bags, can be carried in a special compartment and brought forward as required. A further three tons of loose coal, for use at other times than the periods of test, can also be carried in a bunker of normal shape. The tank contains 3,500 gal. of water, and the feed from the tender to the locomotive is measured by a displacement-type water meter. A corridor connects the front of the tender with the dynamometer car so that access may be obtained to the locomotive footplate during the run.



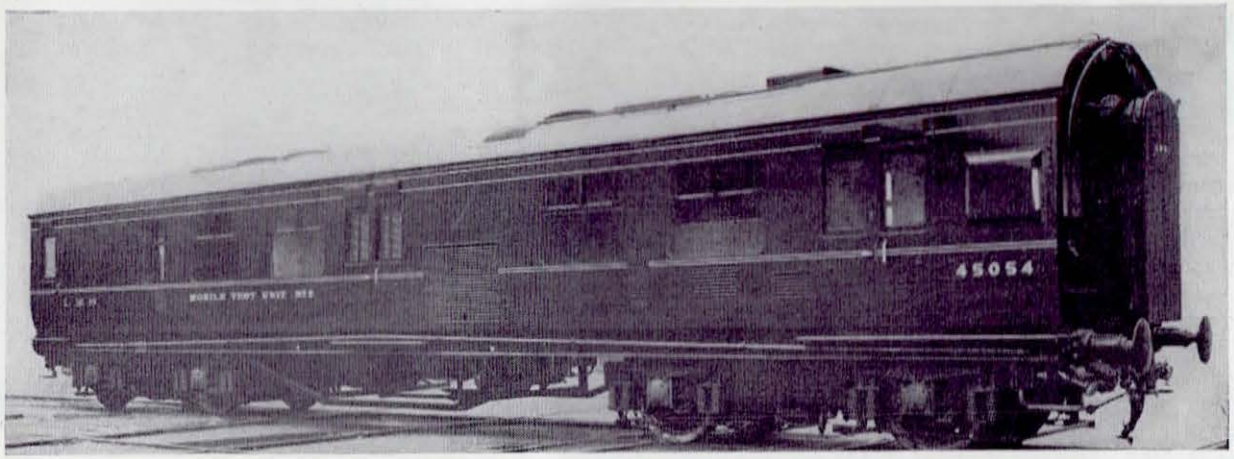
Generators of the medium and high-speed trucks which are supported directly from the truck frames by brackets

New Dynamometer Car

The new dynamometer car will have the form of a double-truck coach with a single additional unflanged road wheel mounted on the leading truck for accurately measuring the speed of the train and the distance travelled. The car will contain an Amsler hydraulic dynamometer coupled to the leading drawhook through a friction draw-gear. The dynamometer is connected with a recording table which will give a continuous record of drawbar pull, speed, work done, etc., on a basis of either time or distance. The master controls of the three braking units are fitted in a desk panel and instruments are provided to indicate the loading of each of the units. Another panel will carry instruments, such as temperature indicators, etc., for studying the working of the locomotive while running.

The braking units are similar in construction to very powerful motor coaches, the "motors" being actually

The control compartment in which the principal controls of each braking unit are centralized



One of the three breaking units which, with a dynamometer car and special tender, make up the mobile testing plant

generators resisting the motion of the train. The power generated is absorbed by banks of resistance grids which are cooled by being located in vertical chimneys up which a current of air is forced by motor-driven fans. The energy of braking is thus finally dissipated in two columns of hot air expelled vertically through openings in the roof which are protected by sliding covers when not in use. As the full power of the generators may be required at very slow speeds, they are separately blown by motor-driven centrifugal fans. The large amount of auxiliary power required for the resistance fans, for the blowing and excitation of the generators, and for other purposes has necessitated the provision of an auxiliary generating set comprising a 100-hp. Diesel engine and generators. The auxiliary generator is connected in parallel with a 120-amp.-hr. battery which provides standby power in an emergency and heating and lighting when the generating set is not running. Separate auxiliary generators driven from the same engine provide the excitation for the main generators and an alternating current supply. The auxiliary engine room is located in the middle of each braking unit.

Generator Suspension

The trucks of the braking units are of the four-wheel type, each having two generators rated at 375 hp. each. In the trucks of the low-speed unit the generators have suspension bearings and are supported by the axles as in a normal motor coach. In view of the weight of these generators and the high speeds for which they are required, this arrangement is not desirable for the higher-speed units; the large unsprung weight on the axle would have tended to damage or severely wear the track. The generators of the medium- and high-speed trucks are, therefore, supported directly from the truck frames by brackets and the generator shaft is geared and connected to the axle by means of Andrews-English Electric flexible axle drives which were made by the railway under license. These drives, which were specially developed for use in high-powered motor coaches, permit the axle to move vertically perfectly freely, as required by the suspension. They are self-alining and permit a certain amount of lateral movement to allow for clearances in the boxes or distortion of the truck frame.

Considerable attention has been given to the design of the automatic control which regulates the loading of the main generators so that constant speed is obtained. On the dynamometer car a small tachometer generator is driven from the unflanged wheel and generates a voltage proportional to the speed of the train. This is balanced against a fixed voltage representing the speed to be maintained so that the difference represents the error between the actual and the required speeds. This voltage is amplified and transmitted down the train to the braking units in each of which is a thyratron rectifier set controlling the main generator excitation. Stabilizing devices are introduced in order to avoid the various forms of "hunting" that would otherwise occur. Each unit has also a master control so that it may be operated independently of the train if desired. The principal controls of each braking unit are centralized in a compartment at one end of the vehicle.

Tests Began in 1939

During 1939 several series of tests were carried out on an 0-6-0 freight locomotive on the Derby-Leicester-Burton circuit, and further tests were under way when the war began. Measurements of the resistance at constant speeds of a number of coaches of standard type are now being made on the line between Rugby and Peterborough.

One of the test trains in this investigation is illustrated. The mobile testing unit is coupled to the tender. Next is the dynamometer car which is measuring the tractive resistance of the eight coaches behind it. A light structure mounted temporarily on the front of the engine carries a cup anemometer and vane whereby the speed and direction of the resultant wind are electrically recorded on the dynamometer chart.

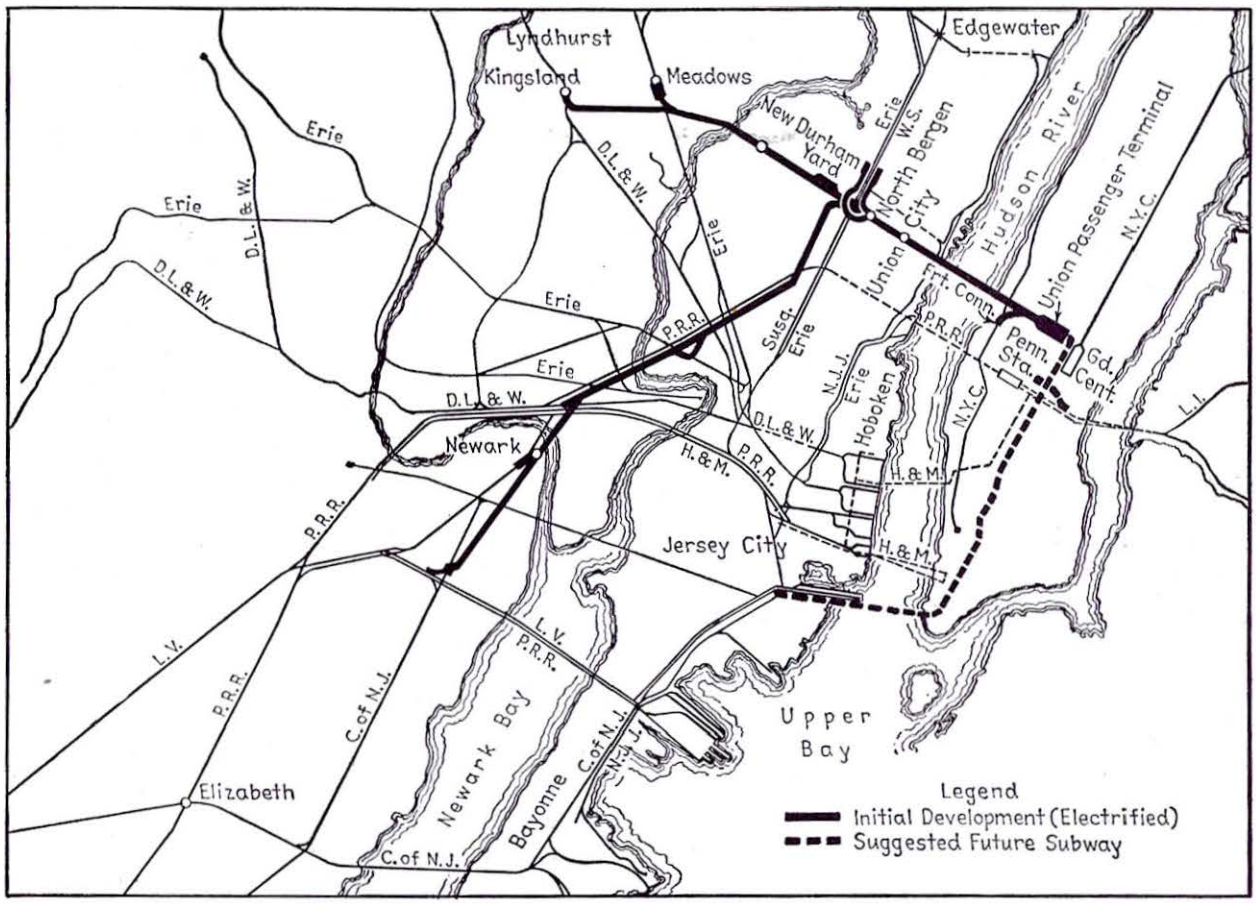
The basic principles of these units were evolved by Dr. H. I. Andrews of the L.M.S. research department, and the subsequent development and construction were carried out at the Derby shops under the direction of the road's chief mechanical engineer, and the B.T.H. Company, Rugby.

ADDITIONAL NEW YORK RAILROAD LINK UNDER STUDY IN NEW JERSEY

A plan for a direct railroad line permitting the uninterrupted passage of trains from any point in New Jersey into mid-Manhattan, and the construction there of an underground union passenger terminal serving all New Jersey railroads, with the exception of the Pennsylvania, has been recommended for study to the governor and legislature of New Jersey by the state's Department of Economic Development. Proposals to bring about this New Jersey-New York connection were included in the annual message of Governor Driscoll of New Jersey to the state legislature, as reported in *Railway Age* of January 17, page 56. The plan, based on research by Col. L. Alfred Jenny, consulting engineer of Dumont, N. J., involves construction which, it is estimated, would cost about $117,840,000, exclusive of terminal real estate but including preliminary expenses and the cost of financing and interest during construction.

According to the plan, the first links in New Jersey would begin at the west portal of a tunnel to be built from North Bergen under the Hudson river to provide direct access to the union passenger terminal which would be located between Seventh and Sixth avenues and 50th and 49th streets in New York. This trackage would include a short connection at New Durham to serve the Northern of New Jersey (an Erie affiliate), the West Shore (New York Central System), and the New York, Susquehanna & Western, and two other proposed lines which would spread out from North Bergen, one going west and the other south. The westerly link would be a new railroad across the Hackensack meadows to Kingsland, a station south of Lyndhurst on the Boonton branch of the Delaware, Lackawanna & Western. This would connect also with the main line of the Erie and with the New Jersey & New York (controlled by the Erie), at a place designated as "Meadows."

The third link also would be a new railroad going south across the Hackensack meadows to a point southeast of Newark and making connection with the Newark branch of the Erie, the main line of the Lackawanna, the Baltimore & Ohio, the Lehigh Valley and the Central of New Jersey. All of these new lines would be electrified and built in the open. Portions of connecting railroads also would be electrified for commutation train operation into New York.



At North Bergen a transfer station would be provided, permitting people from the northeastern section of New Jersey to go to Newark and points beyond by rail without loss of time. The entire project, it is estimated, would take about 5 years to build and about 16,000 men would be engaged in its construction.

In order to reduce the cost of real estate needed for the New York terminal, the plan contemplates a two-level railroad development, with incoming trains using the lower level and outgoing trains the upper level. Incoming trains, after unloading, would proceed over loop tracks to the upper level where they would be immediately available for outbound service. If not needed immediately they could be stored there temporarily or moved to a yard in the Hackensack meadows. Each level would have 14 tracks with seven platforms, long enough to hold 10 to 14 cars. Since many New Jersey passenger trains have fewer cars than provided for at the terminal platforms it would be possible to consolidate two such trains into one at North Bergen and thus reduce the number of trains going through the tunnels. It has been estimated that with such an arrangement, at least until the traffic grew considerably, it would be possible to handle all the traffic in two one-track tunnels.

Freight Connection Proposed

To take full advantage of the underwater connections with New Jersey, it is proposed to bring freight trains of limited size through the tunnels during non-rush hours. For that purpose a freight connection is planned with the west side tracks of the New York Central. One or two union freight terminals could be established along this connection. If, at some future time, the available New York subways become overcrowded, it is contemplated to build a new subway from the passenger terminal to Grand Central Terminal, thence to Fifth avenue and down to the Battery, with an extension under the Hudson river to Jersey City connecting with the Central of New Jersey. Where the new subway crossed the 33rd street tracks of the Long Island a new station would be provided for L. I. trains, thus offering direct connections from the new terminal with Grand Central Terminal and the Long Island. The Seventh avenue subway would connect the terminal with Pennsylvania Station.

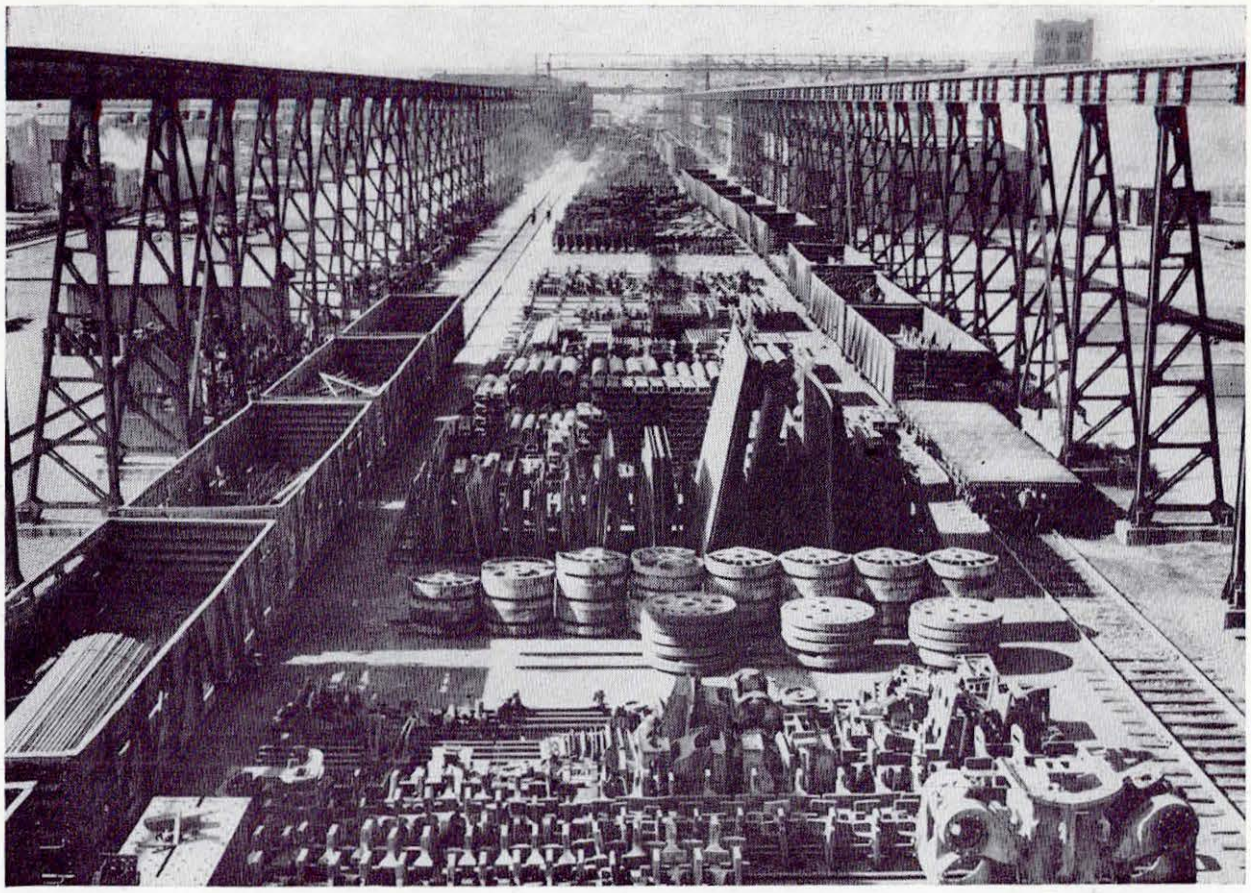
With such a development as the one proposed, the report said, it would be possible for all passengers to save considerable time and much inconvenience. "The primary beneficiaries would naturally be the vast army of daily commuters, gaining about 1 hour per day in traveling time. It must be realized, however, that such a project will not only benefit the region in New Jersey adjacent to New York, but also the vast hinterland stretching as far as Buffalo or even Chicago, because all passengers, from any point on these various railroads, could then travel in comfort directly into the heart of Manhattan. The railroads themselves will gain very materially from this. For this combination of reasons this project assumes a national character and deserves recognition accordingly."

According to a traffic prognostication in the report, the Lackawanna would become the most important user of the proposed new terminal, with the C. of N. J. second, the Erie third and the West Shore fourth. It also was pointed out that the first three of these roads now have passenger terminal facilities occupying very large and costly waterfront areas in Hoboken and Jersey City which could be used to much better advantage for freight and industrial purposes. "None of these waterfront facilities," the report added, "should be used for railroad passengers whose destination is New York city. All of these passengers should be brought directly into Manhattan on rails. Hoboken and Jersey City would thus gain from a proper development and better use of these waterfront areas. The same things holds true for the West Shore's terminal."

Discussing the methods by which the entire project could be financed, the report said: "It is believed that no progress can be made if this matter is left to the railroads to settle. They have too many other problems to handle requiring their full attention and financing. . . . It may be possible to induce private capital to underwrite such a project at, say 2 or 2½ per cent. It would naturally be necessary in return to give some concessions, such as the development of air rights over the terminal, etc. The disadvantage would be the fact that taxes would have to be paid. . . . That would materially increase the rates which would have to be charged to the users of this facility and they may be so high as to discourage them."

The financial plan discussed in greatest detail in the report is a "kind of partnership between private capital, the railroads and the public. . . . To carry this out it would be necessary to create a non-profit corporation which would (a) finance and direct the construction of the project, (b) lease it to a terminal company (an operating company) composed of the various railroads who would operate and maintain these facilities, (c) be responsible for meeting interest and amortization charges and (d) when amortized, say in 50 years, turn the property over to the railroads as trustees for the public (or some other agency) who would give the public the benefit of reduced fares only sufficient to meet operating and maintenance costs at that time. . . . Such a plan . . . would naturally require concurrent legislation in the states of New Jersey and New York. . . . Such legislation should also make the undertaking tax-free. If that is not done, all charges would have to be increased by about 50 per cent . . . [and] some contribution should be asked for from the states, or federal government."

Alco-built Diesel recently put in service on the Missouri Pacific



Suggesting the tremendous volume of supplies handled by railroad stores departments. A view at the Illinois Central stores at Paducah, Ky., showing an overhead crane which is an important factor in low handling costs at this station

JANUARY BUYING UP 8 PER CENT FROM LAST YEAR

	January Purchases*
Equipment**	$ 64,827,000
Rail	7,316,000
Crossties	5,233,000
Other Material	87,206,000
Total of Mfd. Products	$164,582,000
Fuel	72,156,000
Grand Total	$236,738,000

* Subject to revision
**Amount placed on order

During the month of January, the Class I railroads of the United States spent an estimated total of $236,738,000 for equipment, materials and supplies. This represented an increase of more than 8 per cent over expenditures for like items in the same month of 1947. Of this total, $64,827,000 went into equipment orders. This was an increase of $6,773,000 over the volume of equipment orders placed in January of last year. These orders included 59 passenger cars at an estimated cost of $7,375,000, 9,213 freight cars, of all types, whose estimated cost is $36,852,000, and 84 Diesel-electric locomotives for whose purchase approximately $20,600,000 was appropriated.

In classifications other than equipment only buying of crossties showed any increase from December. Fuel and equipment were the items that combined to bring about the 8 per cent increase that January showed over January of 1947.

All inventory figures are as of the first of the month mentioned.

JANUARY PURCHASES* OF MANUFACTURED GOODS (EXCL. EQUIP. & FUEL)

Jan. '48 Compared to Other Jans. (000)

Year	Amt.	% Change
1942	76,930	+30
1943	57,848	+72
1944	78,305	+27
1945	77,944	+28
1946	77,855	+28
1947	101,789	— 2
1948	99,755	

Jan. '48 Compared to Other Months '47 (000)

Month	Amt.	% Change
Feb. '47	92,196	+ 8
Apr. '47	115,189	—13
June '47	106,049	— 6
Aug. '47	108,656	— 7
Oct. '47	110,054	— 9
Dec. '47	105,179	— 5
Jan. '48	99,755	

* Subject to revision

JANUARY PURCHASES* OF RAIL

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	3,071	+138	Feb. '47	7,109	+ 3
1943	4,811	+ 52	Apr. '47	6,843	+ 7
1944	6,423	+ 14	June '47	6,459	+13
1945	5,734	+ 28	Aug. '47	7,710	— 5
1946	5,089	+ 44	Oct. '47	8,278	—13
1947	7,809	+ 6	Dec. '47	7,795	— 6
1948	7,316		Jan. '48	7,316	

*Subject to revision

JANUARY PURCHASES* OF CROSSTIES

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	4,871	+ 7	Feb. '47	6,704	—21
1943	4,037	+30	Apr. '47	8,819	—41
1944	6,895	—24	June '47	8,174	—36
1945	5,601	— 7	Aug. '47	8,996	—42
1946	5,822	—10	Oct. '47	6,915	—24
1947	7,179	—27	Dec. '47	5,111	+ 2
1948	5,233		Jan. '48	5,233	

JANUARY PURCHASES* OF OTHER MATERIAL

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	68,988	+26	Feb. '47	78,383	+11
1943	49,000	+78	Apr. '47	99,527	—12
1944	64,987	+34	June '47	91,415	— 5
1945	66,609	+31	Aug. '47	91,950	— 5
1946	66,944	+30	Oct. '47	94,861	— 8
1947	86,800	+ 1	Dec. '47	92,273	— 5
1948	87,206		Jan. '48	87,206	

*Subject to revision

JANUARY PURCHASES* OF FUEL

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	32,851	+119	Feb. '47	54,612	+32
1943	39,883	+ 81	Apr. '47	51,486	+40
1944	50,341	+ 43	June '47	50,176	+44
1945	47,826	+ 51	Aug. '47	55,529	+30
1946	51,312	+ 41	Oct. '47	60,414	+19
1947	58,490	+ 23	Dec. '47	72,694	— 1
1948	72,156		Jan. '48	72,156	

JANUARY TOTAL PURCHASES* (EXCL. EQUIP.)

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	109,781	+57	Feb. '47	146,808	+17
1943	97,731	+76	Apr. '47	166,675	+ 3
1944	128,646	+34	June '47	156,225	+10
1945	125,770	+37	Aug. '47	164,185	+ 5
1946	129,167	+33	Oct. '47	170,468	+ 1
1947	160,279	+ 7	Dec. '47	177,873	— 3
1948	171,911		Jan. '48	171,911	

*Subject to revision

JANUARY INVENTORIES OF RAIL

Year	Compared to Other Jans. (000) Amt.	% Change	Month	Compared to Other Months '47 (000) Amt.	% Change
1942	23,986	+33	Feb. '47	31,447	+ 1
1943	18,131	+76	Apr. '47	29,775	+ 7
1944	22,342	+43	June '47	27,990	+14
1945	24,292	+31	Aug. '47	28,509	+12
1946	24,840	+28	Oct. '47	28,084	+14
1947	30,192	+ 6	Dec. '47	29,669	+ 7
1948	31,891		Jan. '48	31,891	

JANUARY INVENTORIES OF CROSSTIES

Year	Compared to Other Jans. (000) Amt.	% Change	Month	Compared to Other Months '47 (000) Amt.	% Change
1942	48,426	+75	Feb. '47	88,293	— 4
1943	52,977	+60	Apr. '47	97,549	—13
1944	67,964	+25	June '47	89,782	— 6
1945	72,434	+17	Aug. '47	86,066	— 2
1946	72,519	+17	Oct. '47	87,829	— 4
1947	83,891	+ 1	Dec. '47	89,881	— 6
1948	84,672		Jan. '48	84,672	

JANUARY INVENTORIES OF OTHER MATERIAL

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	338,839	+67	Feb. '47	490,734	+15
1943	375,376	+51	Apr. '47	519,985	+ 9
1944	382,566	+48	June '47	542,096	+ 4
1945	437,575	+29	Aug. '47	558,118	+ 1
1946	435,326	+30	Oct. '47	558,987	+ 1
1947	476,625	+19	Dec. '47	553,473	+ 2
1948	565,735		Jan. '48	565,735	

JANUARY INVENTORIES OF SCRAP

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	8,808	+61	Feb. '47	11,929	+19
1943	9,805	+45	Apr. '47	11,221	+27
1944	9,628	+48	June '47	10,929	+30
1945	10,155	+40	Aug. '47	9,880	+44
1946	11,258	+26	Oct. '47	10,426	+36
1947	12,572	+13	Dec. '47	15,134	— 6
1948	14,211		Jan. '48	14,211	

JANUARY INVENTORIES OF FUEL

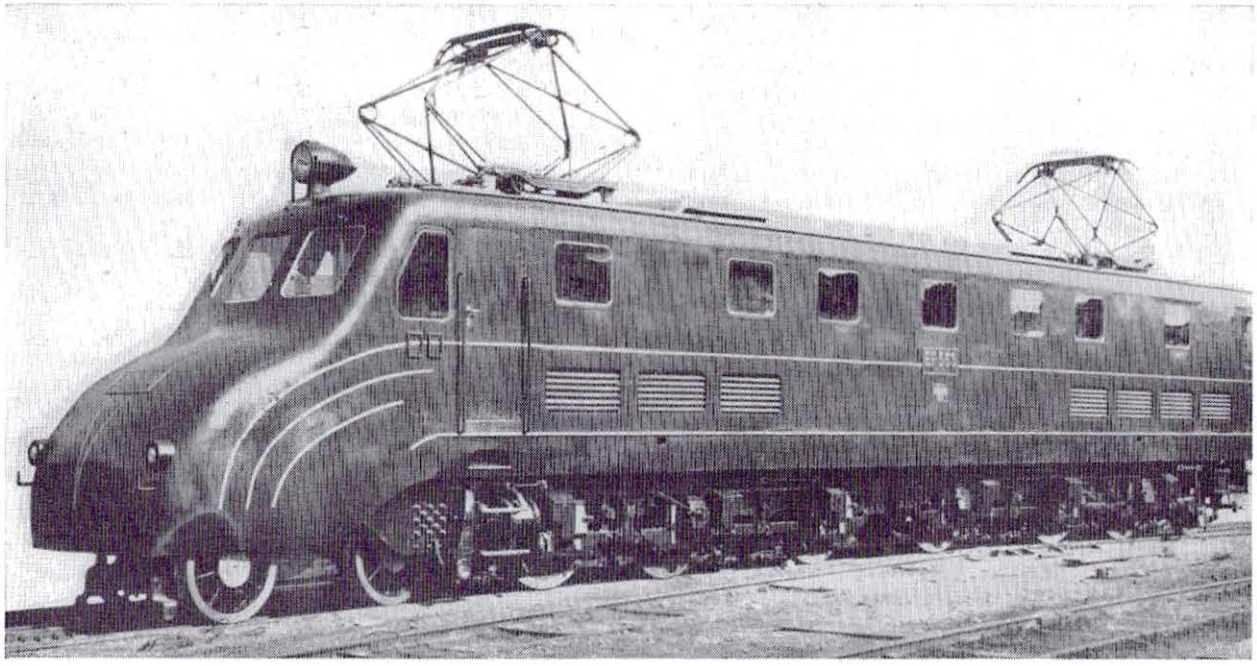
Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	42,040	+72	Feb. '47	51,164	+35
1943	47,612	+45	Apr. '47	51,207	+35
1944	50,221	+37	June '47	56,510	+23
1945	59,182	+17	Aug. '47	56,135	+23
1946	51,816	+33	Oct. '47	56,621	+22
1947	49,873	+38	Dec. '47	64,847	+ 6
1948	69,031		Jan. '48	69,031	

JANUARY TOTAL INVENTORIES

Year	Jan. '48 Compared to Other Jans. (000) Amt.	% Change	Month	Jan. '48 Compared to Other Months '47 (000) Amt.	% Change
1942	460,099	+66	Feb. '47	673,567	+14
1943	503,901	+52	Apr. '47	709,738	+ 8
1944	532,721	+44	June '47	727,307	+ 5
1945	603,638	+27	Aug. '47	738,709	+ 4
1946	595,759	+28	Oct. '47	741,955	+ 3
1947	653,153	+17	Dec. '47	753,004	+ 2
1948	765,540		Jan. '48	765,540	

* Subject to revision

NEW MOVIE—The Seaboard Air Line has recently released a sound picture in full color depicting recent development of economic potentialities inherent in the natural resources of the southeeastern states. Its title—"New Horizons." Plans have been made to give the movie widespread distribution throughout the country as well as in the south. The role of rail transportation is tied in with the various subjects covered.



Electric passenger locomotive of the 4-6-6-4 type built in Japan

JAPANESE RAILWAYS NEED NEW EQUIPMENT

Worn-out cars and locomotives, obsolete shop tools, and accumulated neglect during the war, rather than military destruction, account for this condition

By HOWARD G. HILL*

The first Japanese railway line, extending from Yokohama to Tokyo, about 20 miles, was completed and placed in operation in 1872. Expansion of railway construction was pushed with vigor, and the present system of over 13,000 miles of the Japanese Government Railways covers the four principal islands of Honshu, Hokkaido, Kyushu and Shikoku. The government lines are a consolidation of many individual railways, and there are about 4,700 miles of private lines in operation, including several different gages from 2 ft. 6 in. to 4 ft. 8½ in. The government lines were built to 3 ft. 6 in. gage, largely as a result of English influence during the early development period.

Many operating practices closely resemble those of England and the Continent, but the influence of modern American design and practice is definitely evident, and can be said to have been the predominating influence during recent years, because many Japanese railway officers and engineers studied railways in America extensively during the years preceding the late war. They copy the works and products of other countries by purchasing railway equipment from the United States, England or Germany, and then build a large number of duplicates in Japan. There is much evidence, however, that they do not always fully understand the basic principles underlying some of the designs which they copy, and their products are, therefore, inferior in many respects.

Because of the mountainous terrain throughout the Japanese islands, the principal railway lines were built along the narrow coastal plains, with numerous cross-country connecting lines which wind through tortuous valleys and mountain passes of great scenic beauty. These connecting lines involved heavy construction work. Track structure on mountain grades is excellent, and many of the drainage ditches along the right-of-way on mountain grades are lined with masonry to prevent erosion.

There are 36,000 bridges and 2,200 tunnels on the J.G.R., many of which are good examples of engineering work. Mountain grades are from 2.5 per cent to 3.3 per cent, with a few 6.6 per cent grades on which rack-rail locomotives are operated. Rails on the main

*The author, a consulting engineer, surveyed conditions on the Japanese railroads while a colonel in the U. S. Army. This article is based on an address made on February 24, to the Washington (D.C.) post of the Society of American Military Engineers. The opinions expressed are those of the author, and do not necessarily reflect the views of the Department of the Army.

lines are from 81 lb. to 110 lb. per yard, on neatly dressed rock ballast. On secondary lines rails of 53 lb. to 81 lb. per yard are used, on gravel or rock ballast. Wood ties are used throughout the system. There is a large amount of badly worn rail in the Tokyo-Yokohama area and other areas where traffic density is high. There are numerous areas where improved maintenance is required, but track conditions are generally good.

Trains are operated on the left-hand track of double track lines, and the engineman's position is on the left-hand side of the locomotive cab. Signaling on double-track main lines is by automatic electric three-aspect color-light signals. On single-track lines the staff system is used, with manually controlled two-position semaphone signals to govern entrance to, and exit from, the passing tracks at stations. At each station on single track, a signal man controls the signals on orders from the stationmaster, who is the supreme authority at his station. The staff system is electrically interlocked between adjacent stations separately in each direction.

Depend on Signal Indications

Train movements are authorized by schedules printed on graph-type train sheets, which are used by division officers only. Enginemen and trainmen do not carry printed timetables showing the schedules of all regular trains on the division. Instead, each engineman has a printed or handwritten schedule covering only the movement of the train he is handling at the moment, with no information whatever regarding any other train on the district over which he is moving. This schedule shows, in Japanese characters, the name of each station, and, in Arabic numerals, the time of arrival and departure at each station, the time in minutes between adjacent stations, speed restrictions, if any, and any other special data required.

On double-track main lines, trains move on schedule entirely on signal indications.. Clearance cards are issued at initial stations, but train orders are used only when special instructions are required in cases of emergency. Communication between stations is by telephone and telegraph. When trains stop under conditions in which they may be overtaken by another train, complete dependence is placed on signal protection in rear of the standing train. The practice of sending a flagman back to protect the rear of a standing train against a following train is not followed in Japan, and this involves the possibility of serious rear-end collisions.

The conductor on a Japanese train appears to have practically nothing to do with the operation of the train. Due to the extremely crowded conditions of Japanese passenger trains at the present time, it is utterly impossible for the conductor or his assistants to move through the cars, so they find the most comfortable spot available and merely ride. Entire dependence for the operation of the train rests on the engineman, but his responsibility is not shared by the fireman, whose sole duty is to fire the locomotive and pump water into the boiler.

An interesting feature of the Japanese railway organization is the strict military discipline under which employees and supervisors have been trained. Whenever an employee and an officer meet, both salute, remove their caps and bow low, and the ceremony is repeated on parting. The same is true when officers of various ranks meet. Extreme politeness is the rule on all occasions. All railway officers and many employees wear uniforms. When a train enters a station, the stationmaster and his staff line up on the platform and salute as the locomotive passes. The salute is returned by the enginemen.

There are approximately 5,900 steam locomotives and 330 electric locomotives on the J.G.R. In freight service, the principal steam locomotives include 507 of the 2-8-0 type, and 1,774 of the 2-8-2 type. In passenger service, the principal trains are handled by 1,102 engines of the 4-6-2 type. In addition there are many smaller locomotives of various wheel arrangements. Many of these are 40 to 60 years old and of obsolete designs. The latest groups of 2-6-2, 4-6-2, and 2-8-2 types, built during the war at the rate of 400 locomotives per year, include many modern American details of design. The largest Pacifics and Mikados are very small when compared with modern American locomotives of these types.

The electric locomotives are principally of the 2-6-6-2 and 4-6-6-4 types, used in both passenger and freight service on the three hundred route miles of electrified lines, including the two under-sea tunnels connecting Shimonacki, Honshu, with Moji, Kyushu, which were placed in operation during the late war. Some of these electric locomotives were built in England, but the majority of them were built in Japan. Current is collected from an overhead wire at 1,500 volts d.c. Power is supplied by a number of hydroelectric plants as well as by steam plants. During seasons of light rainfall, it is often necessary to curtail train service on electrified lines because the limited amount of water in the storage reservoirs reduces the production of current at the hydroelectric plants. Limited coal production also curtails the supply of power from steam generating plants.

Locomotive Capacity Limited

The outstanding feature of Japanese locomotives is their limited capacity. Boiler evaporative capacity is about 50 per cent of that required to produce full cylinder tractive force and is thus the limiting factor in the power output of the locomotive. The coal used is of poor quality, running about 8,000 B.t.u.'s per pound, and it consists of about 70 per cent to 90 per cent fines which will pass through a ½ in. screen. An estimated 50 per cent of this fine coal goes up the stack unburned and is thus wasted. Firing is by hand with a short-handled scoop about one-fourth the size of that used by locomotive firemen in America. This small scoop is handled with one hand only. Fireboxes are small and their volume is insufficient for proper combustion. Grate areas are too small for economical rates of combustion. The maximum amount of coal which a fireman can place in the firebox with the small scoop is at the rate of about 4,000 lb. per hr., and this rate can be kept up for short periods only, due to limited physical capacity of the firemen. The result of all of these adverse factors is reflected in boiler efficiency, and the limited power output of the locomotive holds train tonnage and speed down to figures which look

ridiculous when compared with American tonnage ratings and operating speeds. The combined effect of these conditions causes a tremendous waste of fuel.

The Japanese railwaymen take great pride in operating trains on time. Running on time is easy, because schedules are slow. The highest average speed is about 25 m.p.h. Running speeds seldom exceeds fifty miles per hour. When getting away from stations, acceleration is very slow, primarily to minimize wear and conserve coal. When a train is delayed, little effort is made to regain lost time, as this would involve working the engine harder and would consume more fuel.

All government railway equipment in Japan is fitted with automatic couplers and Westinghouse automatic air brakes. Much of the latter equipment was manufactured in Japan. Passenger cars follow American design closely. They are eight-wheel cars of composite construction, 65 ft. long. They are equipped with electric lights and steam heat, although these facilities are in very limited use now as a result of war conditions. Trains of from 10 to 14 cars are operated on the principal lines, while 6 to 8 cars make up the normal train on the less important lines. Because so many people in the cities go to the country to buy food direct from the farmers to sell in the city black markets, all passenger trains are loaded to more than double their rated capacity. Vestibules are full, and passengers hang on the steps, ride between the cars, on top of tenders, and on the front end of the locomotives.

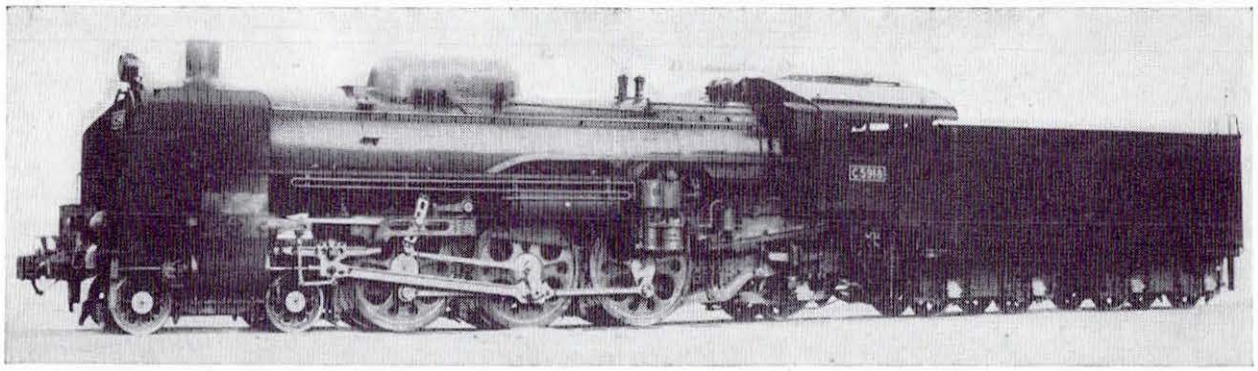
Stations are of the closed type and tickets are collected as the passengers leave the stations on completion of trip, as in England. Overhead bridges connect the train platforms and station buildings on each side of the tracks.

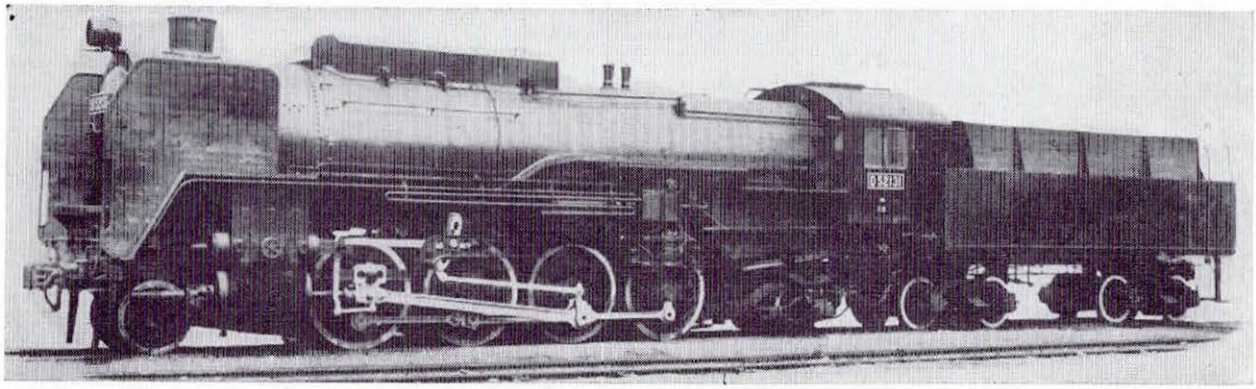
Most of the freight cars are of the four-wheel type, although there are special types of cars with eight wheels. Freight trains normally consist of about 35 cars and train speeds are low. Some freight trains carry cabooses, but these are usually placed five or six cars ahead of the rear end, apparently with the thought that, in case of a rear-end collision, the crew would stand a better chance of coming out alive than they would with the cabooses on the rear end of the train.

The present badly deteriorated condition of the Japanese railways is due mainly to intensive use during the war, deferred maintenance, critical shortage of materials, use of inferior substitute materials, poor workmanship in shops and enginehouses, neglect of necessary repairs in an effort to keep the power and equipment rolling, and a general let-down in supervision, inspection and workmanship all the way from officers down to the workmen.

Lack of materials has prevented the proper treatment of bad food water for locomotive boilers during the past several years. As a result boilers are badly scaled, shells and firebox plates are pitted, corroded and cracked to a critically dangerous degree, and a situation has developed, because of delayed repairs, which may at any time result in a series of disastrous boiler expolsions. These cannot fail to cause serious interference with the activities of the Occupation Forces in their efforts to improve the Japanese economy, and are very likely to cause injury and loss

(*Continued on page* 53)





Above—A 4-6-2 type passenger locomotive built in Japan in 1943. Below—A 2-8-2 freight locomotive built in Japan in 1944

Construction view of Cone yard looking east, showing at the left the partially completed engine-terminal facilities

BUILDS BETTER YARD AT EAST ST. LOUIS

Reconstructed facility of B.&O., with latest communications and a complete new engine terminal, has an efficient track arrangement and permits rapid handling of freight in both directions

Rapid classification of freight moving in both directions—permitting the delivery of cars to connecting roads and the make-up and dispatching of through freight trains in minimum time—is being realized on the Baltimore & Ohio at East St. Louis, Ill., as the result of a recently completed reconstruction program involving its Cone yard at that point. The yard, which was practically abandoned for nearly 16 years, is now handling more than 850 cars a day—usually with less than six hours standing time per car.

In revitalizing the facility increased capacity was obtained by lengthening the existing tracks and constructing a number of new tracks; and by providing a track layout that permits both eastward and westward traffic to be switched at the east end without interference with other movements, a four-story office building with the yardmaster's office in a glass-enclosed room on the top floor, a two-way loudspeaker communication system which enables the yardmaster to converse directly with employees throughout the yard area, and new and completely equipped engine terminal, car-repair yard, storehouse and water-service facilities.

The enlarged yard has a capacity of 1,062 cars, and is designed to function in a highly efficient manner. Fourteen road freight trains—seven in each direction—and two local freight trains are handled daily. Direct interchange is carried on with three other trunk-line roads, the Gulf, Mobile & Ohio, the Louisville & Nashville and the Chicago, Burlington & Quincy. Through connections with the Terminal Railroad Association of St. Louis and the Alton & Southern, interchange is carried on with 20 other roads and two barge lines in the St. Louis area. In addition, the B.&O. connects directly with the East St. Louis Junction Railway, which serves the National Stockyards in East St. Louis.

The B.&O. entered East St. Louis in 1857. Its yard facilities at that point consisted originally of a stub yard on the east bank of the Mississippi river, now known as the "Lower" yard. A rapid increase in traffic, after the construction of the Eads bridge, made it necessary to enlarge the terminal facilities, and Cone yard was constructed about 1½ mi. east of the Lower yard. With only 11 tracks and a capacity of less than 600 cars, this yard, in time, became overcrowded, and in 1930, when the B.&O. became closely affiliated with the Chicago & Alton (later the Alton), all freight-classification activity was transferred to the latter road's yard at Venice, Ill., near East St. Louis, which was sufficiently large to handle the traffic of both roads. This arrangement continued until the Alton was merged with the G.M.&O.

When it became evident that the B.&O. would

have to perform its freight classification at some location on its own property, studies were made to determine the most suitable point. Of several proposals, two were considered the most attractive. One of these involved the construction of an entirely new yard just east of Washington Park, Ill., 3½ mi. east of East St. Louis.

The alternative possibility was to reconstruct and enlarge Cone yard and to locate new engine-terminal and car-repair facilities at that point. The latter proposal had the advantage of a more convenient location and could be carried out after acquiring a relatively small amount of property. For these and other considerations, it was decided to proceed with the reconstruction of Cone yard.

Cone yard lies in an angle formed by the intersection of the main tracks of the B.&O. and the Pennsylvania, being located east of the crossing known as "K" tower. Approaching the crossing from the east, the B.&O. tracks are approximately parallel with and about 720 ft. south of those of the Pennsylvania. At a point 2,230 ft. east of the crossing, the B.&O. tracks enter a 2-deg. curve to the right, 2,010 ft. long, ending just east of "K" tower.

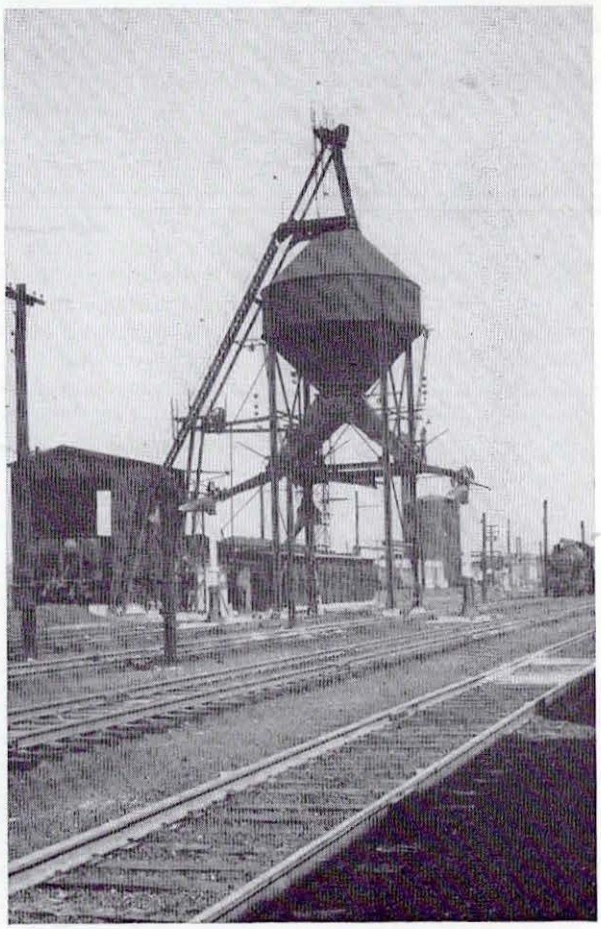
A bridge carrying the tracks of the B.&O. over a public thoroughfare known as St. Clair avenue is located 3,700 ft. east of "K" tower. The east end of the yard is 200 ft. east of the bridge. Prior to the recent work, the St. Clair Avenue bridge carried, from south to north, two main tracks of the Louisville & Nashville, two main tracks of the B.&O., and a yard pull-in track known as the "Avenue" track, which continued east for a distance of 0.7 mi. to an interlocking plant known as Willows.

The chief operating problem to be overcome in designing the new yard was that occasioned by the Pennsylvania crossing at "K" tower, which, because of its location directly west of the yard, would have interfered seriously with switching at that end. To avoid this, a design was adopted which called for the construction of two parallel stub-end switching leads, extending eastward from the yard. These leads have a capacity of 27 cars each and extend east from St. Clair avenue for 1,470 ft. It was necessary to shift about 3,000 ft. of the main tracks to make room for these leads. It was also necessary to widen the St. Clair Avenue bridge to the north to accommodate three additional tracks.

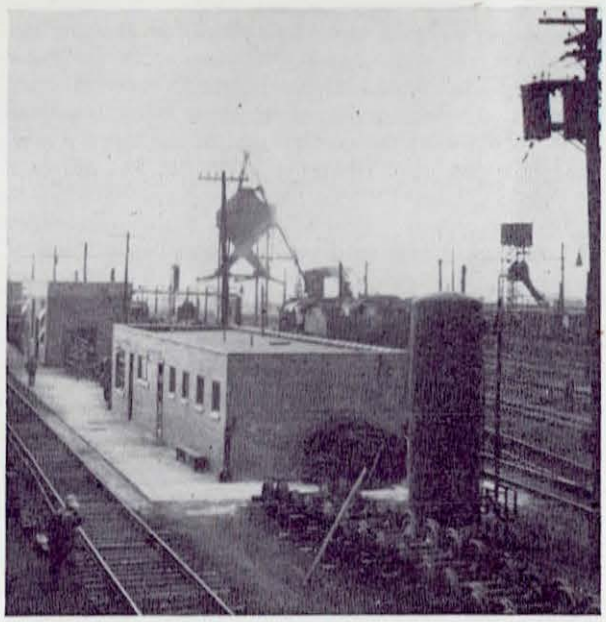
The new yard contains a total of 39 tracks, 24 of which are given over to the handling of freight. These lie directly north of the company's main tracks and are divided into two yards for handling eastward and westward traffic separately. The westbound yard includes the 12 tracks nearest the main tracks, while the eastbound yard includes the next 12 tracks. North of the eastbound yard are a caboose track, a four-track car-repair yard with a capacity for 65 cars, and the engine terminal which includes 10 tracks.

The switching leads are on tangent and are constructed on 18-ft. centers. The southerly switching lead is a projection of the ladder at the east end of the westbound yard. All tracks of this yard leave the south side of this ladder on No. 8 turnouts, and the switch stands are located on the north side of the

Looking from the enginehouse into the machine-shop portion of the building



The Roberts & Schaefer coaling and sanding station at Cone yard serves three tracks



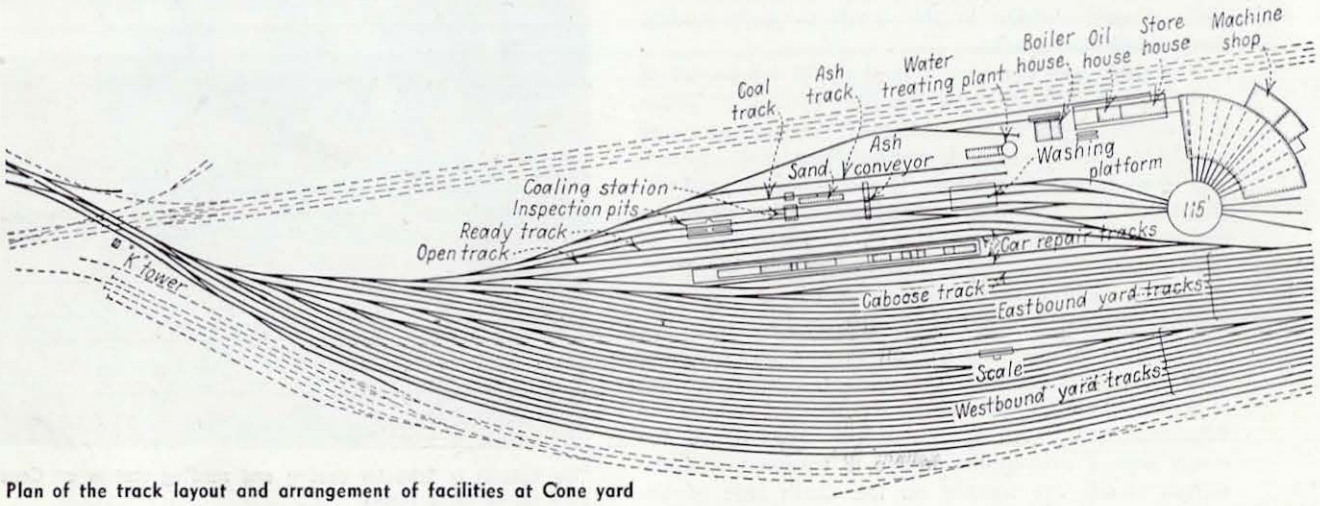
Left—The yardmaster's operating office is located in the glass-enclosed room on the top floor of the tower in the yard-office building. Above—Looking west over part of the car-repair yard, showing the arrangement of the shop buildings between the repair tracks

ladder. Thus all switches are operated from the north side of the cars, so that switchmen are plainly visible to enginemen on switch engines headed west. The east ladder of the eastbound yard begins at a point 200 ft. east of St. Clair avenue with a No. 8 turnout from the northerly switching lead. The switch stands on this ladder are also located north of the ladder so that the visibility for enginemen switching this yard is likewise unobscured.

The tracks throughout the yard are of 100-lb. rail and switch material, laid on new treated ties and fully tie-plated. No. 8 turnouts are used throughout the yard. All of the frogs for the trackwork were furnished by the American Frog & Switch Co., Hamilton, Ohio, while the Railroad Products Company, Brighton, Ohio, furnished the switch stands. The switches were made in the B.&O. shops at Martinsburg, W. Va.

The new yard office is located 80 ft. east of St. Clair avenue and north of the switching leads, in such position that it will not interfere with the view of enginemen working the eastbound yard. The building is a one-story steel frame and brick structure, 27 ft. by 52 ft. in plan, with a brick and steel tower, 14 ft. by 14 ft., in the southwest corner, which rises three stories above the main building. The first floor of the building contains the office of the terminal trainmaster, offices for the yard clerks, billing clerks and car-record accountants, and a teletype office.

Located at the second-floor level in the tower is a small repair shop for the telegraph and signal department, while the third floor contains air-conditioning equipment. The yardmaster's office on the



Plan of the track layout and arrangement of facilities at Cone yard

fourth floor of the tower is entirely enclosed by large windows of heat-resisting glass. It commands an unobstructed view of the entire yard so that the yardmaster may readily detect any slow-down in yard operations.

The principal article of furniture in the yardmaster's office is a console-type communications desk. Elevated above the desk top is a control panel containing a loud-speaker, a microphone and a switchboard with control keys for the two-way communications system installed throughout the yard. This system includes eight so-called "paging" stations, or loud-speakers, located at strategic points throughout the yard. These are connected directly to the microphone on the yardmaster's desk so that he may call to all speakers at once or, by throwing the proper switch, to a selected area in the yard. Scattered throughout the yard area, including the car-repair yard and engine terminal, are 59 "talk-back" stations, or speakers, all connected through the switchboard to the loud-speaker on the desk.

When the yardmaster wishes to converse with an employee in the yard, he calls for him through the paging speakers, whereupon the employee goes to the nearest talk-back station and presses a button which turns on a light at the proper key on the switchboard, thus informing the yardmaster of his location. By placing this key in the "talk" position the yardmaster can then converse directly with the employee through the talk-back speaker. The paging speakers are for calling purposes only; the talk-back speakers function both as microphones and as speakers. This equipment was furnished by the Bendix Radio division of Bendix Aviation Corporation, Baltimore, Md.

The operating floor in the tower of the office building is air conditioned and the entire building has fluorescent lights. The interior walls are of glazed brick and the floors are of asphalt tile. The building is heated by steam from an oil-fired furnace in the basement. Also in the basement are locker, shower and toilet rooms for the yard crews.

The location of the yard office at the east end of the yard, together with the teletype station in the building, contributes materially in minimizing the time required to perform the clerical work incident to the yard operation. For example, teletype messages, giving the consists of trains from the east, are received well in advance of the arrival of these trains. Switching lists can then be made up so that they can be placed in the hands of yard crews as soon as the trains arrive.

As a train from the east pulls into the yard the waybills are thrown off the caboose as it passes the yard office. They are then stamped, sorted, and made ready for the conductors of interchange runs. Waybills for eastward traffic are brought directly to the yard office as interchange runs arrive at the yard. Switching lists are prepared and the bills are stamped and sorted for the eastward trains. As trains pull out of the yard, the bills are handed onto the rear end.

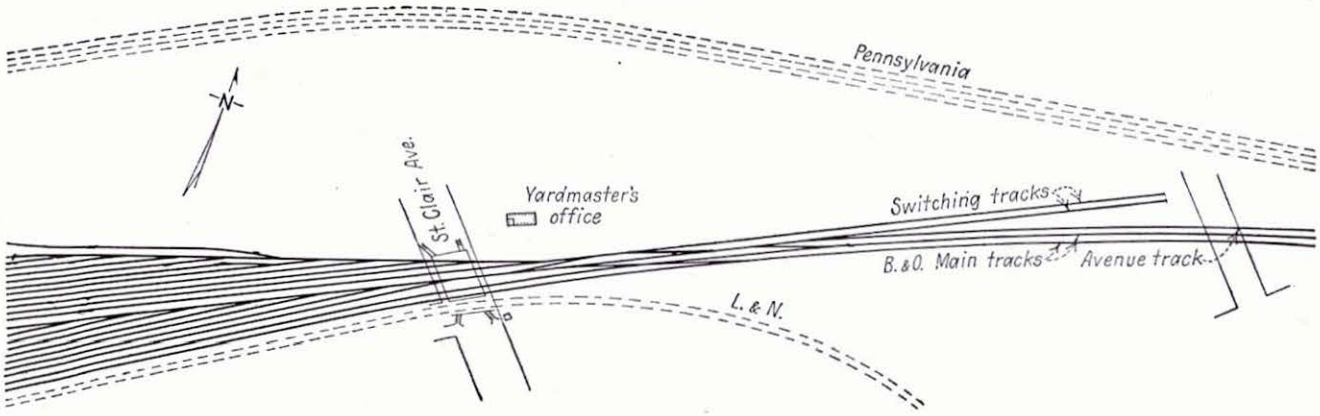
Many Classifications

Eight classifications are made for westbound freight at Cone yard. Three of these are for the trunk-line roads with which the B.&O. makes direct interchange — the L. & N., the C.B. & Q. and the G.M.&O. — and one classification each is made for the Alton & Southern and the East St. Louis Junction.

Three additional classifications are made for freight delivered to the T.R.R.A., destined for delivery in St. Louis or to other roads leading to the west and southwest. Except for cars being delivered to or received from the A. & S., all interchange runs depart from and arrive at the west end of the yard.

Seven eastbound classifications for through freight are made at Cone yard. These are groupings for Philadelphia, Pa., Baltimore, Md., Washington, D. C., New England via Cherry Run, W. Va., and three groupings for Cincinnati, Ohio, and beyond, the latter including one classification for through refrigerator cars for icing at Cincinnati.

Its layout and modern facilities permit Cone yard to handle freight in both directions with minimum delay. The maximum standing time for cars in the yard—exclusive of bad-order cars—is reported as being less than six hours. Frequently cars are received, classified and dispatched in less than two hours. Four yard crews are employed on each shift; one performs



the yard switching while the others make deliveries and assist in the yard work when time permits.

The engine-terminal facilities to serve the enlarged yard include an enginehouse with a 115-ft. turntable, a storehouse, a combination powerhouse and pumphouse, an engine-washing platform, a cinder-handling plant, and a coaling station. The enginehouse, a brick and wood-frame structure located at the east end of the engine-terminal area, is divided into two sections — one containing four stalls and the other six stalls, all having inspection pits 115 ft. long. The four-stall section is intended for ultimate use as a repair point for Diesel locomotives. At present, it resembles the remainder of the building, but it is constructed with a concrete subfloor 2 ft. below the elevation of the present floor. When the St. Louis division of the B. & O. becomes completely Dieselized, it is planned to take up the present floor and construct elevated working platforms to make this section into a three-level repair shop.

A fire wall separates the two sections of the enginehouse and a fire door is provided at a large opening in this wall. The six-stall section of the building is equipped with a Whiting 50-ton drop table, serving two stalls and a release track located midway between them. Each stall in the enginehouse has a transite smokejack and a Coppus Locoblow system of drafting serves each pair of stalls.

A completely equipped machine shop, an office, and wash, locker and toilet rooms for shop employees and engine crews occupy an extension on the northeast side of the enginehouse. All timbers in the enginehouse were treated with chromated zinc chloride by the Koppers Company, Pittsburgh, Pa., to make them resistant to decay and fire.

Heating and Lighting

The enginehouse is afforded ample daylight by the use of large glass-block panels in the walls and by a clerestory in the roof. For ventilation movable sash are provided in the glass-block panels. Artificial lighting is furnished by shaded droplights suspended from the ceiling. The building is heated by Grid unit heaters using steam from a boiler in the powerhouse.

Directly west of the enginehouse, and connected to it by a covered runway, is the storehouse,—a steel-frame and brick structure, 30 ft. by 150 ft. This building is divided to form a storeroom, 30 ft. by 100 ft., and an oil house, 30 ft. by 50 ft. At the west end of the building is a covered material platform.

The storehouse section of the building is equipped with steel shelving to accommodate a large number and variety of spare parts. The oil house is fitted with several stainless steel tanks for the storage of various types of oil and grease that are used in small quantities. Lubricating oil is stored in three 15,000-gal. tanks in the basement of the building, and is delivered to the ground floor of the structure by Bowser metering hand pumps. A material track extends along the north side of this building for receiving cars of oil and material. Tank cars of oil are unloaded by means of an electric pump. The window sash in the oil-house section of the building are of the "explosion" type. Safety switches are provided throughout.

West of the storehouse is the powerhouse and pumphouse. This is a steel-frame and brick building, 40 ft. by 60 ft., divided into a boiler and a compressor room. One boiler supplies steam heat for all buildings at Cone yard except the yardmaster's office. Another supplies water for boiler-washing and engine-washing purposes. Ashes from the boiler fires are removed by the Brady system of ash handling which uses compressed air to blow the ashes from bins beneath the boilers into a hopper car spotted nearby.

In the compressor room are two Worthington electric-driven compressors, each rated at 1,500 cu. ft. per min. Aftercoolers are located outside the building. The output from compressors, one of which is a standby unit, is used for shop and yard purposes. Also in this room is a standby water pump for use in case of fire.

Moved Large Water Tank

The water-treating plant replaces an older facility which was located 400 ft. west of the present station. All of the equipment at the plant is new except the 250,000-gal. storage tank, which was moved intact from its old position and set in place on a new foundation.

The engine-washing platform, located 300 ft. west of the turntable, is of concrete and serves three tracks. Here engines are sprayed with a solution of Oakite, which is then rinsed off with hot water, after which the engines are given a covering of light oil. About 175 ft. west of the washing platform is a Roberts & Shaefer mechanical cinder-handling plant which serves the same three tracks as the washing platform. West of the ash conveyor is a 200-ton, three-track coaling station, of steel construction throughout, and a three-track sanding plant. These units were also furnished by the Roberts & Schaefer Co., Chicago. The final unit in the engine-terminal facilities is composed of two concrete inspection pits, each 100 ft. long, located west of the coaling station.

The car-repair yard contains four tracks and is located south of the engine terminal, between it and the classification yard. The tracks are arranged in pairs with several small shop buildings located between the pairs of repair tracks. The buildings are one story high and are constructed above a continuous concrete platform, 30 ft. wide and 620 ft. long. These shops include a lumber shed, a storehouse, a repair shop, a wheel shop, and a locker and office building. Open spaces on the platform between the buildings provide for the temporary storage of wheels, supplies and scrap material.

Cone yard was designed and constructed under the general direction of A. C. Clarke, chief engineer of the Baltimore & Ohio, Baltimore, and James P. Ray, regional engineer of the Western region, Cincinnati. DeLeuw, Cather & Co., consulting engineers, Chicago, collaborated with L. P. Kimball, engineer of buildings of the B. & O., Baltimore, in planning the yard and its related facilities. W. O. Trieschman, engineer, Cincinnati, was in charge of the construction work. Freight classification activities at the yard are under the direct supervision of H. R. Purkhiser, terminal trainmaster, East St. Louis.

$1,909 MILLION SPENT FOR MATERIALS AND SUPPLIES IN '47

Class I roads' outlay last year greatly exceeded comparable expenditures in any previous year

Expenditures by Class I railroads for fuel and materials and supplies of all kinds used in connection with their operation reached the unprecedented amount of nearly two billion dollars in 1947, according to the Association of American Railroads. Such expenditures in the past year were far greater than in any year on record. The nearest approach was in 1923, when they amounted to $1,738,703,000.

This increase over previous years is in part attributtable to the fact that prices of fuel, forest products, iron and steel, and thousands of other items are now higher than they have ever been before.

Railroad purchases in 1947, according to reports to the association from the Class I railroads, totaled $1,909,209,000. This was an increase of nearly $300 million or 18.5 per cent above those made in 1944, the peak war year when traffic was greater than ever before. Railway purchases in the past year also exceeded those in 1946 by nearly $340 million or 21.6 per cent.

For fuel alone, railroads expended $691,630,000 in 1947 compared with $553,153,000 in the preceding year. They also spent $171,592,000 for forest products, compared with $148,984,000 in 1946. Expenditures for iron and steel products of all kinds in 1947 totaled $628,155,000 compared with $520,546,000 in 1946. For miscellaneous products, including cement, lubricating oils and grease, ballast, electrical materials, stationery and printing, commissary supplies for dining cars, camps and restaurants, and many other items, expenditures of Class I railroads in 1947 totaled $417,832,000 compared with $347,872,000 in 1946.

ANNUAL PURCHASES OF MATERIALS AND SUPPLIES (EXCLUDING EQUIPMENT) 1923-1947 Class I Railroads

(Thousands of dollars)

Year	Fuel	Forest products	Iron and steel products	Miscellaneous	Total	Total less Fuel
1923	$617,800	$232,511	$464,955	$423,437	$1,738,703	$1,120,903
1924	471,656	180,872	365,610	324 917	1,343,055	871,399
1925	459,465	170,305	419,255	343,018	1,392,043	932,578
1926	473,354	186,291	507,302	392,085	1,559,032	1,085,678
1927	438,821	175,729	432,604	348,774	1,395,928	957,107
1928	384,608	160,794	397,544	328,395	1,271,341	886,733
1929	364,392	157,551	437,840	369,752	1,329,535	965,143
1930*	306,500	134,600	329,700	267,700	1,038,500	732,000
1931*	244,500	76,250	202,100	172,150	695,000	450,500
1932*	178,250	52,200	100,550	114,000	445,000	266,750
1933	180,526	42,442	110 720	132,162	465,850	285,324
1934	217,294	64,271	159,758	158,901	600,224	382,930
1935	232,723	57,367	156,914	146,021	593,025	360,302
1936	272,270	76,683	273,753	180 715	803,421	531,151
1937	294,293	104,707	359,409	207,974	966,383	672,090
1938	243,783	56,968	152,176	130,355	583,282	339,499
1939	257,273	69 971	273,968	168,102	769,314	512,041
1940	273,556	82,185	315,048	183,674	854,463	580,907
1941	349,765	103,771	456,147	251,591	1,161,274	811,509
1942	426,335	115,227	433 089	285,160	1,259,811	833,476
1943	527,296	150,255	410,803	305,927	1,394,281	866,985
1944	585,832	158,957	526,608	339,132	1,610,529	1,024 697
1945	555,155	136,962	520,876	359,411	1,572,404	1,017,249
1946	553,153	148 984	520,546	347,872	1,570,555	1,017,402
1947	691,630	171,592	628,155	417,832	1,909,209	1,217,579

Source: Reports of the carriers to the Bureau of Railway Economics.
* Railway Age estimates.

PURCHASES OF FUEL, MATERIAL AND SUPPLIES
Calendar Years 1947 and 1946—Railways of Class I

Item	1947	1946
Fuel:		
Bituminous coal	$458,288,000	$386,464,000
Anthracite coal	4,790,000	4,745,000
Fuel oil	212,224,000	149,033,000
Gasoline	8,234,000	5,815,000
All other (coke, wood, fuel for illumination)	8,094,000	7,096,000
Total Fuel	$691,630,000	$553,153,000
Forest Products:		
Cross ties (treated & untreated)	$92,098,000	$88,478,000
Switch and bridge ties (treated & untreated)	15,039,000	7,828,000
Lumber, including timber (bridge bridge & building, equipment, rough & finished lumber)	55,778,000	46,134,000
Other forest products	8,677,000	6,544,000
Total Forest Products	$171,592,000	$148,984,000
Iron and Steel Products:		
Steel rail (new & second hand except scrap)	$87,608,000	$65,302,000
Wheels, axles & tires	49,141,000	42,374,000
Frogs, switches & crossings & parts of same	29,195,000	24,580,000
Track fastenings, track bolts, spikes, etc.	67,271,000	61,686,000
Iron bridges, turntables & struct. steel, all kinds	8,721,000	6,929,000
Bar iron & steel, spring steel, tool steel, unfabricated rolled shapes, wire netting & chain except light coil, boiler, firebox, tank, & sheet iron & steel, all kinds	43,256,000	32,298,000
Forgings & pressed steel parts for locomotives	6,363,000	4,070,000
Car forgings, iron & steel and fabricated or shaped steel, for passenger & freight cars	24,866,000	20,154,000
Flues & tubes for locos. & stationary boilers	8,569,000	7,050,000
Interlocking & signal material	34,176,000	28,987,000
Telegraph, telephone & radio material	9,240,000	6,896,000
Bolts, nuts, washers, rivets, lag screws, pins & studs	14,854,000	11,520,000
Springs, helical & elliptical, all kinds for locomotives & cars	4,734,000	4,605,000
Locomotive & car castings, beams, couplers, frames & car roofs	76,772,000	67,482,000
Track & roadway tools all kinds, miscellaneous track material & wire fencing. Motor, hand, push & velocipede cars & parts for same	12,864,000	10,511,000
Machinery & repair parts, including all power driven shop machinery	10,776,000	10,602,000

Iron and Steel Products (Cont.)		
Machinery, boilers, repair parts & all other iron & steel products	24,340,000	20,480,000
Pipe, iron & steel & fittings, all kinds	11,334,000	8,389,000
Hardware, all kinds, including nails	8,833,000	6,704,000
Hand & small machine tools, such as drills, taps, reamers, dies, chasers, including air tools & parts	14,468,000	11,567,000
Air brake material	28,724,000	28,258,000
Standard & spec'l mechanical appliances for locos.	20,101,000	18,822,000
Automotive equipment & supplies	31,949,000	21,280,000
Total Iron and Steel Products	$628,155,000	$628,155,000
Miscellaneous:		
Cement	$3,997,000	$3,235,000
Lubricating oils & grease, illuminating oils, boiler compound, waste	35,712,000	29,334,000
Non-ferrous metal & non-ferrous metal products	47,812,000	34,459,000
Ballast	20,570,000	16,327,000
All electrical materials	41,341,000	28,359,000
Stationery & printing	31,662,000	26,706,000
Commissary supplies for dining cars, camps & restaurants	56,490,000	59,500,000
Rubber & leather goods	11,894,000	9,780,000
Glass, drugs, chemicals, including chemicals for timber treatment, painters' supplies	54,889,000	39,897,000
Arch brick for locomotives	4,303,000	3,738,000
Passenger car trimmings	15,181,000	11,431,000
Locomotive, train & station supplies	27,066,000	23,313,000
All other miscellaneous purchases	66,915,000	61,793,000
Total Miscellaneous Purchases	$417,832,000	$347,872,000
Grand Total	$1,909,209,000	$1,570,555,000

Source: Reports of the carriers to the Bureau of Railway Economics.

NEW BOOK

SELECTED PAPERS AND ADDRESSES OF JOSEPH B. EASTMAN, edited by Dr. G. Lloyd Wilson. 381 pages. 9 in. by 6 in. Bound in cloth. Sponsored by Joseph B. Eastman Foundation, Amherst College. Published by Simmons-Boardman Publishing Corporation, 30 Church street, New York 7. $4.

It is ironical that the late Joseph B. Eastman should have been called upon by the President to help the carriers in two widely contrasting situations. In 1933 he was given the mission of helping the railroads adjust themselves to a deficiency of traffic. Nine years later Mr. Eastman was called from his post as a member of the Interstate Commerce Commission to help the carriers adjust themselves to an excess—a superlative excess—of traffic. In both capacities he acquitted himself admirably.

In this collection—the first volume, it is hoped, of a series—the Eastman of the feverish days of World War II is embodied. A remarkable fact is that, beset as he was by the manifold and passing duties of the top administrator of the most vital industry in the country, the director of the Office of Defense Transportation was able to generate addresses of such clear and profound quality. It is amazing, too, to observe how little repetition there is among the 53 addresses which are incorporated in this book.

Mr. Eastman had the rare quality of being able to cover a complicated subject completely, accurately and interestingly, without a trace of dullness or bombast. He was also able to set his sights on the particular audience at hand. Despite the wide range of listeners for whom these addresses were designed—including railroad superintendents, warehousemen, traction operators, union leaders—the speaker was able to identify himself with the problems uppermost in the minds of the respective groups and to leave with them a basis of action.

The most valuable themes in this remarkable collection are the proper sphere of a wartime regulatory agency; the virtues of cooperation contrasted with government compulsion; the pressing need for overall efficiency; and the pitfalls of administrative procedure. Included as an

DETROIT, MICH., PLEASED WITH MODERNIZED FORT STREET UNION STATION—
During brief ceremonies which officially opened the new facilities to the public on March 8, Mayor Van Antwerp complimented the tenant railroads—the Chesapeake & Ohio, Pennsylvania, and Wabash—on their "civic mindedness" in providing the traveling public with such an attractive, comfortable and convenient passenger station. The alterations, made at a cost slightly in excess of $1,000,000, included the complete revamping of the first floor so as to make the entire area available for improved service to the public. The new train-gate concourse, shown above, adds materially to the convenience and attractiveness of the new station. It has a sound-proof ceiling, glazed ceramic tile wall facings, a terrazzo floor, fluorescent lighting, a modern train bulletin board, an I.B.M. electric clock, illuminated gate signs, and an effective public address system. The whole area is high-lighted by aluminum fixtures, such as doors, windows, smoking urns, guide posts and railings. The present concourse is 1,877 sq. ft. larger than the old and has convenient exits at each end which eliminate the former necessity for passengers to pass through the waiting room to get to the street.

end-piece are Mr. Eastman's "Twelve Point Primer On the Subject of Administrative Tribunals."

Mr. Eastman started out his career in transportation regulation as a proponent of socialization of transportation and utilities. But, as a believer also that regulators may not be zealots at the same time, he held his idea in abeyance, and, instead, retained open ears and eyes through his long career on the Interstate Commerce Commission. He ended his life as one who could say publicly that private management in World War II was more successful than government management in World War I with the qualification that the latter was necessary then because neither the carriers nor the shippers nor the armed forces were properly geared for a continuance of private operation. On numerous occasions Mr. Eastman expressed the opinion that cold, practical fact ought to determine whether an industry of public interest should be privately or publicly operated. He undoubtedly was one of capitalism's greatest friends, because he acted as a spur to the improvement and justification of private ownership and operation.

COMMUNICATIONS

Prefers Factual Analysis to "Intuition"

NEW YORK

TO THE EDITOR:

Your selection for publication of William J. Dixon's excellent article, "A Study of Elasticity of Demand for Railroad Passenger Transportation" (January 24 issue), was most commendable and encouraging. You would be doing your readers a service were you also to print a paper analyzing the variable factors affecting the *costs* of railroad passenger transportation.

It is to be hoped that the managements of the large passenger carriers will see fit to act on the implications of Dixon's article and similar studies. It is only by subjecting passenger traffic to mathematical, rather than intuitive, analysis, that this phase of the railroad business will be able to stand on its own merits, and no longer be regarded as a perverse and frequently undesirable stepchild of the transportation of freight.

ROBERT L. BANKS
Passenger Representative, New York Central

Finds Railroads Remiss in Small Things

AKRON, OHIO

TO THE EDITOR

While it is true, as you so often point out editorially, that railroads are beset by regulations and high costs, it does seem to me that they can't blame all their troubles on those things. They have come to regard with a sort of contempt any revenues not counted in millions of dollars. Items involving mere hundreds of dollars, or a few thousands, are considered not worth bothering with. But I am sure that if they get enough of this "small change" it would certainly help the net earnings. There are a lot of small railroads which remain in existence and feed a not inconsiderable total of carload traffic to the big roads simply by going after and keeping the sort of business which the others seem to think beneath their dignity. Will the brass ever learn that they can't make their passengers "highway minded"—by forcing them to use other means of transportation—and then expect the same people to be "rail minded" when it comes to shipping freight?

RICHARD W. RICHARDSON

Japanese Railways Need New Equipment

(*Continued from page* 45)

of life among American and Japanese personnel, as well as extensive property damage.

The machinery of locomotives is badly worn and cannot be properly repaired because of lack of materials. Prior to the war, locomotive runs of 200 miles or more were common on the J.G.R. Now they are afraid to make these long runs, and the average engine run is only 55 miles.

Trucks, draft gears and brake rigging on passenger and freight cars are badly worn and are repaired by makeshift methods. Window glass is broken out on most passenger cars. Scarcity of glass prevents replacement, so there is no point in trying to heat the cars. The air brake mechanism on both locomotives and cars appears to be well-maintained, and smooth train handling was observed all over the system.

Shop conditions are deplorable. Machine tools are crowded together, and many are obsolete or badly worn. Shops are poorly lighted and badly arranged. When locomotives are stripped, parts are left lying on the erecting floor in utter confusion. Everywhere there is confusion and disorder. Workmanship is very poor. Supervision and inspection are very lax. Material shortages are critical.

Many additional details could be related to substantiate the opinion that the Japanese railways are now in a deplorable condition. To correct these conditions will be a tremendous task and will require large quantities of material and several years of arduous labor.

Japanese industry as a whole is in just as bad a condition as the railways, and cannot now produce the necessary materials. No credits have been available for purchasing necessary materials elsewhere. Uncertainty over the reparations program has prevented definite action on the part of the Japanese toward restoration of industrial production. Under such conditions it has been extremely difficult to inaugurate the overall rehabilitation program so vitally needed by the railways.

Recent developments indicate that steps are under way to revive Japanese industry. The railway problem becomes of prime importance in any revival of industry, since transportation and industry are interdependent. Lacking an adequate system of highway transport, and having lost much of her prewar coastwise shipping facilities, Japan must depend mainly on her railway system for the distribution of the products of industry and agriculture, and for the transportation of citizens between the centers of population. The railways will also play a vital part in the proposed development of foreign trade.

It is considered imperative that critically needed materials and equipment be provided promptly to permit rehabilitation of the Japanese railway system in order to forestall failures which are inevitable if present conditions continue. The necessary materials and equipment can be financed through savings in operating, fuel, and maintenance expenses, and the cost of the American occupation will be correspondingly reduced. The railways will then be able to function successfully.

GENERAL NEWS

Legislative Activities Reported by A.A.R.

Files return under Lobbying Act; spent $39,803 in first quarter

Legislative activities of the Association of American Railroads during this year's first quarter involved expenditures totaling $39,803.27, mostly for salaries of A.A.R. officers and employees, but including also a $4,000 contribution to the National St. Lawrence Project Conference, according to a report which the association has filed with the clerk of the House of Representatives. The report was filed under Regulation of Lobbying Act which was enacted in 1946 as part of the law providing for reorganization of congressional procedures.

It stated that the association "is advised by counsel and believes" that the filing was not required by the law. It added that "the report is nevertheless filed for the purpose of advising Congress of the estimated receipts of and expenditures by the association for federal legislative activities"; and that "it is the intention of the association to continue to file reports of this character in the future." In a brief description of the A.A.R. organization and listing of its activities, the report stated that the legislative activities are a "minor part" of the total activities, and the cost of such legislative activities is a "minor part (estimated to range between 1 per cent and 3 per cent during various periods) of the total cost of all activities."

Also, it was pointed out that the reported contributions and expenditures covered "all federal legislative activities" of the association, including activities with respect to legislation which the association did not support or oppose, either directly or indirectly." In this connection, the report went on to explain that the association "advises its member lines of all legislation of possible interest to them, much of which is neither supported nor opposed by the association." Thus A.A.R. officers "devote considerable time to the analysis of legislative measures and to similar legal work which, in numerous instances, does not have as its purpose the passage or defeat of such measures."

The $39,803.27 reported as the first-quarter expenditures is also the amount reported as contributions for legislative activities during the same period. The same figures were used because no contribution to the association is earmarked to be used for legislative purposes; and thus it was assumed that contributions for that purpose equaled the expenditures. The report form calls for a listing of contributors of $500 or more, and for that purpose it was assumed that each full member of the association participated in the total contributions for legislative activities in the same proportion that it participated in the total contributions of all full members for the entire activities of the association.

On this basis, 23 of the larger A.A.R. member roads were listed as contributors of $500 or more, their aggregate contribution being $30,127.08. The remaining $9,676.19 of the reported total of contributions came from other full members, their individual contributions being less than $500 on the basis of the foregoing formula.

List Railroad Speakers for Transportation Institute

A number of railroad officers are among those selected to address the first Midwestern Institute in Rail Transportation, to be held April 19 to May 1, inclusive, at the University of Minnesota in Minneapolis. The institute is being sponsored by the University in cooperation with the Association of American Railroads and the Association of Rail Transportation Institutes (see *Railway Age* of March 13 page 539). It will be directed by Edmund A. Nightingale, associate professor of economics and transportation.

Railroad officers scheduled to participate in the institute, and their subjects are as follows:

Harvey C. Marmaduke, representative of the executive department and manager, Employees' Suggestion System, Illinois Central, "Visual Education and Empolyees' Suggestion Systems," and "Romance of American Railroads."

Vernon P. Turnburke, vice-president, executive department, Great Northern, "Railway Organization—the Modern Corporation and its Functions."

William W. Judson, vice-president, operating department, Northern Pacific, "Overall Picture of Line Operations."

Frank Lockwood, superintendent of stations and loss and damage prevention, Chicago, Rock Island & Pacific, "Loss and Damage Prevention."

Edwin H. Burgess, vice-president and general counsel, Baltimore & Ohio, "Rate-Making Issues" and "Railway Legal Department—Organization and Functions."

Frank G. Fitz-Patrick, vice-president, traffic, Chicago & North Western, "Selling Freight and Passenger Services."

William R. Cox, freight traffic manager, Western region, Pennsylvania, "Traffic Training Activities."

L. J. Kiernan, manager of special services, public relations department, A.A.R., "Railway Financial Problems."

Chester L. LaFountaine, general safety supervisor, Great Northern, "Safety Programs."

Harold M. Sims, director of public relations, Western Association of Railway Executives, "Public Relations."

John P. Cole, general accounts assistant, A.A.R., "Cost Finding."

Daniel P. Loomis, executive director, Association of Western Railways, "Settling Railway Labor Disputes."

Rex R. Manion, engineer, maintenance of way, Great Northern, "Current Problems in Maintenance of Way."

William Nelson, mechanical assistant to general manager, Kansas City Southern, "Current Problems in Maintenance of Equipment."

Frank L. Murphy, chief engineer, Pullman-Standard Car Manufacturing Company, "New Developments—Freight and Passenger Equipment."

Frank L. Steinbright, superintendent of telegraph, Northern Pacific, "New Developments—Signalling and Communication."

Robert S. Henry, vice-president in charge of public relations of the A.A.R., will be the principal speaker at the graduation dinner on April 28.

NON-OPS WANT 25 CENTS MORE PER HOUR PLUS 40-HR. WEEK

Sixteen non-operating railroad unions on April 10 served formal notice on the individual carriers of a combined demand for reduction of the work-week from 48 to 40 hours, without any reduction in straight-time earnings from the existing basis, plus an increase of 25 cents in rate of pay per hour, to be effective May 10. In addition to these basic objectives, the organizations are serving notice of demands for other costly changes in rates of pay and working agreements as follows: (1) Minimum pay for eight hours at overtime rates for service of any length on Saturdays; (2) pay for a minimum of eight hours at not less than double time for service of any length on Sundays and holidays (if a specified holiday falls on a Sunday, the following Monday will be deemed a "double-time day"); and (3) pay at overtime rates for all service beyond eight hours, or other basic day established, Mondays through Fridays, where not now in effect.

To push the campaign on a national basis the unions have established a so-called Employees' National Conference Committee headed by G. E. Leighty, president of the Order of Railroad Telegraphers, who directed the wage movement of the non-operating organizations in 1947.

Hearings on Eastern Fare Increase to Begin May 5

Hearings on the application of eastern railroads for authority to increase basic passenger fares to 3 cents per mile in coaches and four cents per mile in Pullmans (reported in *Railway Age* of April 10, page 61) have been set by the Interstate Commerce Commission for May 5. Commissioner Rogers

and Examiner Burton Fuller will preside at the hearings to be held in the St. George Hotel, Brooklyn, N. Y.

N.Y.C. Coordinated Trucking Plan Approved by the I.C.C.

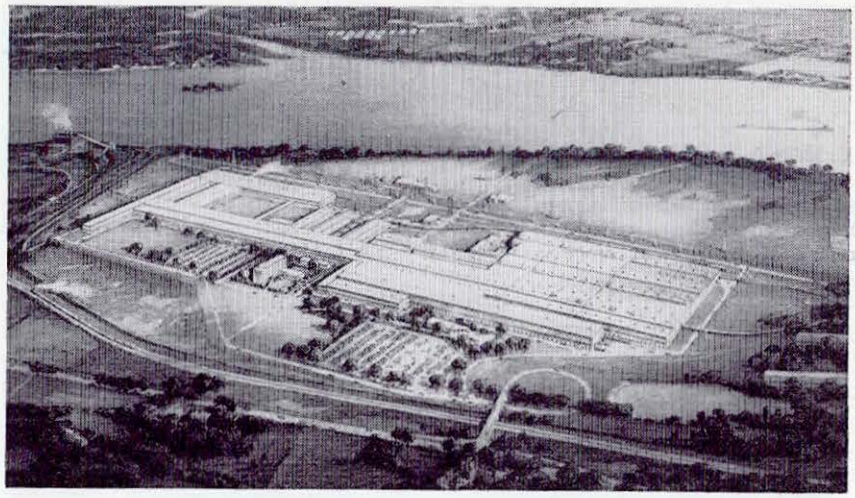
Division 5 of the Interstate Commerce Commission has approved New York Central plans for the establishment of a network of truck routes between points in Ohio, Indiana and Illinois, the road's so-called Big Four District, over which operations will be coordinated with rail services for l.c.l. freight. The trucking service will be provided with leased equipment, and the certificate will be subject to the annual conditions designed to keep the highway operations auxiliary to rail service, including the so-called "key point" restriction stipulating that no shipments shall be transported by motor vehicle between specified points, or through or to or from more than one such point. The proceeding is No. MC-67916(Sub-No. 3).

As proposed by N.Y.C., the network would have covered 34 routes, ranging in length from 28 miles to about 152 miles and aggregating more than 3,000 miles. The division modified this plan in various respects; so the network approved in the report is set up as a 17-route plan. Among other changes the division eliminated what it called "non-parallel short-cut routes," i.e. routes between important N.Y.C. points which would not parallel its rail line between such points, the rail line being somewhat longer than the shortest practicable highway route. N.Y.C. highway operations on such routes would involve "penetrations into the territory of competing railroads," the division found.

Meanwhile, it rejected contentions of protesting independent trucking interests who made presentations to the effect that N.Y.C. should be required to make its trucking arrangements with them. "The plan before us," the report said, "contemplates more than a mere interchange of traffic for joint movement over routes of connecting carriers. What applicant desires and needs is a motor service on shipments that are exclusively in its custody and control. The use of the service of a large number of independent motor carriers, each with its individual interest in its own traffic, would militate against the satisfactory performance of a single, integrated, and scheduled service supplementary to applicant's rail service."

The intervening motor carriers also protested that there had been no showing of inadequacy in their service, and that the proposed coordinated l.c.l. operations (the rates being lower than the motor-carrier rates) would "redivert traffic to applicant which it has heretofore lost to motor carriers." With respect to those contentions, the division had this to say:

"The application . . . is not founded upon a theory that there is a material deficiency in the all-motor service provided by the existing motor carrier. . . . The authority . . . will not permit applicant to enter a new field but will merely permit it to substitute for the present inefficient service a new form of service, one that will provide a faster, more economical, and efficient means for handling the l.c.l. rail traffic which applicant has been and is transporting, and which it is obligated to continue to transport. We do not believe it to be the intent of the act to vest in one competing carrier or class of carriers the right to require the continuation by another of an inefficient method of operation. Nor are we persuaded that the revenues of existing motor carriers will be materially affected by the proposed improvement in applicant's merchandise . . . but, in any event, the public should not be deprived of the benefit of an improved service simply because it might divert some traffic from other carriers."



NEW PLANT CONSTRUCTED ALMOST ENTIRELY OF ALUMINUM—More than 6¼ million lb. of aluminum—said to be the greatest single application of that metal ever recorded in the building trades—went into the construction of the sheet and plate rolling mill of the Aluminum Company of America, at Davenport, Iowa

Ticket Manufacturers Named In Complaint Issued by F.T.C.

Charges that 37 manufacturers and six trade associations, including the Traffic Ticket Manufacturers Association and the Licensed Railroad Ticket Manufacturers Association, both at 369 Lexington avenue, New York, have allegedly violated the Federal Trade Commission Act by unlawfully combining to fix prices and eliminate competition in the manufacture and sale of various types of tickets and related products are embodied in a complaint which has been issued by the Federal Trade Commission. The complaint also names as a respondent the firm of Gooch & Co., of the same New York address, which, according to the complaint, is a co-partnership which acts as secretary and industry counsel for each association. Among the products involved in the proceeding are (1) railroad tickets, described as tickets, checks and coupons of all types used by railroad systems and affiliated bus, ferry, bridge and airways systems; and (2) transit tickets, described as electric railway and bus tickets, checks, coupons and transfers.

Thirty-three of the respondent manufacturers, according to the F.T.C., are members of one or more of the associations, while the other four allegedly have "cooperated" with the associations and their members. The respondents have 20 days from April 7 to file answers to the complaint.

Representation of Employees

The Brotherhood of Railroad Trainmen has extended its coverage of Chesapeake & Ohio yardmen, including foremen, helpers, switchtenders and car-retarder operators, to include those yardmen employed on the C. & O.'s Pere Marquette district, according to the result of a recent election certified by the National Mediation Board. Yardmen on the P.M. were represented by the Switchmen's Union of North America before its merger with the C. & O. last year. In a system-wide election the B. of R. T. won by a vote of 2,110 to 774.

As the result of other elections which also have been certified by the N.M.B., the American Railway Supervisors Association has replaced the Railway Employees' Department, American Federation of Labor, as the representative of Missouri Pacific mechanical department foremen below the rank of general foremen; and the Brotherhood of Railway Clerks has supplanted the United Transport Service Employees of America as the representative of red caps employed by the New Orleans Terminal Company. The N.M.B. also certified the Brotherhood of Maintenance of Way Employees, as the result of a check of representation authorizations, to succeed a local affiliate of the United Steel-

workers of America, C.I.O., as the representative of Newburgh & South Shore maintenance of way employees.

The board also has certified a local affiliate of the International Brotherhood of Firemen, Oilers, Helpers, Roundhouse and Railway Shop Laborers, A.F. of L., to represent Ann Arbor powerhouse employees and railway shop laborers, and the B. of R. C. to represent the entire craft of clerical, office, station and storehouse employees of the Canadian Pacific who perform work in the United States. The Ann Arbor employees formerly were not represented by any organization. With respect to the C.P. election, the B. of R. C. had been recognized as the collecting bargaining representatives of a portion, but not all of the employees involved.

The Dining Car and Railroad Food Workers Union has replaced the Hotel and Restaurant Employees and Bartenders International Union as the representative of dining car employees of the Pennsylvania, as the result of a recent election which has been certified by the National Mediation Board. The vote was 1,403 to 702, with 99 ballots also being cast for the United Transport Service Employees of America, which advised the board that it had a "substantial number" of authorizations from employees involved in the dispute and therefore desired to participate in the election.

In another recent election, the American Train Dispatchers Association extended its coverage of Gulf, Mobile & Ohio train dispatchers to include the entire craft or class of such employees. The A.T.D.A. formerly represented a "large portion" of the dispatchers, and the carrier protested against the inclusion of chief dispatchers on the list of those eligible to vote, claiming that the occupants of such positions are officials of the road. The board, however, said that the facts adduced by the mediator concerning the duties and responsibilities, of the G. M. & O.'s chief dispatchers did not support a conclusion that they were officials; and thus it found them to be a part of the craft or class of train dispatchers.

As the result of other board certifications, the Sheet Metal Workers International Association, operating through the Railway Employees' Department, American Federation of Labor, has supplanted the Federated Shop Crafts of the Bessemer & Lake Erie as the representative of that road's molders, including their helpers and apprentices, and the International Woodworkers of America, Congress of Industrial Organizations, has become the representative of Nacogdoches & Southeastern maintenance of way employees. The latter formerly had not been represented.

William T. Faricy (center), president of the Association of American Railroads, Mrs. Faricy, and Albert R. Beatty, assistant vice-president of the A.A.R., boarding a plane at Miami, Fla., on their way to Havana, Cuba, where they attended the sixth Pan-American Railway Congress

Union Pacific Fined $100

The Interstate Commerce Commission has been advised that a plea of *nolo contendere* was entered by the Union Pacific in the federal court at Portland, Ore., on March 18 to one count of an information in two counts which charged the carrier with having violated the commission's regulations governing the transportation of explosives and other dangerous articles. A fine of $100 was imposed.

The specific offense on which the plea was entered was the improper placing of a freight car placarded "Explosives" in a position nearer than the sixteenth car from the locomotive of a through freight train.

Radio for Public Relations

Radio station KCKN at Kansas City, Mo., has recently completed a series of 14 Sunday afternoon broadcasts designed to illustrate what the railroads serving the city have contributed to its growth, and what they have to offer to help in its further progress and development. An introductory program included interviews with Mayor Kemp, A. F. Hillix, president of the Chamber of Commerce, and George K. Reeder, southwestern representative of the Houston Port & Traffic Bureau. In the 13 subsequent broadcasts, each of the 12 trunk-line railroads serving Kansas City presented a program in which an officer of the road described a specific phase of its activities relating to greater Kansas City. One program was assigned to the 45 "off-line" railroads having representatives at Kansas City.

To illustrate the scope of the programs, Guy E. Stanley, executive assistant of the Union Pacific, was interviewed by the radio station's news editor on the topic, "Diverse Freight Facilities Available at Kansas City." Another program featured H. L. Traber, executive general agent, Missouri Pacific, on the subject "The Railroads Contribution to the Industrial Economy of the Midwest." Each program was planned to show specifically service to the people of Kansas City by its railroads.

Virtually all commercial radio stations allot free time to public interest programs. Mr. Reeder, who has been the prime mover in the Kansas City broadcasts, sought an allotment of public service time for the purpose, which the radio station was glad to allow because of its belief that the railroads had something worthwhile to offer. The Association of American Railroads aided in the assembly and preparation of material. Listener response was reported to be heavy.

February Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for February and for this year's first two months. The compilation, which is subject to revision, follows:

Item	Mo. of February		2 mos. ended with Feb.	
	1948	1947	1948	1947
Number of train accidents*	1,190	1,450	2,402	2,995
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	108	68	188	141
Injured	78	56	132	122
Passengers on trains:				
(a) In train accidents*				
Killed	——	16	14	26
Injured	51	260	326	363
(b) In train-service accidents				
Killed	1	3	5	3
Injured	217	221	398	426
Travelers not on trains:				
Killed	4	——	5	1
Injured	101	88	215	176
Employees on duty:				
Killed	58	59	122	114
Injured	2,795	3,084	5,899	6,337
All other nontrespassers:**				
Killed	123	216	293	406
Injured	623	580	1,367	1,307
Total—All classes of persons:				
Killed	294	362	627	691
Injured	3,865	4,289	8,337	8,731

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $150 to railway property in 1947. Beginning January 1, 1948, this minimum was raised to more than $250.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	118	200	279	379
Injured	409	446	882	918

Complaint of Auto Manufacturers To Be Aired in Detroit May 25

The Interstate Commerce Commission has set back to May 25 the hearing previously scheduled for April 13 in a complaint filed by six automobile manufacturers — Chrysler, Hudson, Nash-Kelvinator, Packard, Studebaker

and Willys-Overland — which allege that railroad rates on new passenger automobiles and trucks from their plants are relatively higher than those from the assembly plants of Ford and General Motors. The hearing will be held at Detroit, Mich., before Examiners Carter and Lawton. Details of the complaint were set out in *Railway Age* of November 1, 1947, page 54.

L. V. Begins Work on Diesel Servicing Shop at Sayre, Pa.

Ground has been broken at Sayre, Pa., for the Lehigh Valley's new facilities for servicing Diesel-electric locomotives, it was announced this week. The complete program, involving an expenditure of $240,000, is expected to be completed this year. Five stalls, each accommodating two 2,000-hp. Diesel-electric units, will be housed in the northeast section of the back shop. Three of the stalls will be equipped with drop tables to facilitate wheel and truck replacement. The new shop will be used not only to service the road's present passenger Diesels, but has been planned with the possibility in mind of future purchases of Diesels for freight service.

Voluntary Rail Revamp Bill Signed by President

President Truman has signed H. R. 2298, the recently-enacted bill which adds to the Interstate Commerce Act a new section 20b, setting up procedures for the voluntary readjustment of railroad financial structures along lines of the former Chandler and McLaughlin acts, the latter of which expired November 1, 1945. The final version of the new legislation is a compromise between the House-approved measure, which would have confined the voluntary readjustment procedures to roads not in bankruptcy, and proposed Senate amendments, which would have gone further and applied such procedures on a mandatory basis to certain roads already in the hands of the courts. Provisions whereby certain roads in bankruptcy might transfer to a voluntary-revamp proceeding remain, but few, if any, such roads are expected to use them.

The House version was the so-called "Mahaffie" bill, which was framed on the basis of recommendations submitted by Interstate Commerce Commissioner Mahaffie and sponsored by the chairman of the House committee on interstate and foreign commerce—Representative Wolverton, Republican of New Jersey. The principal changes from the Chandler and McLaughlin acts, which were parts of the Bankruptcy Act, make the I. C. C. rather than a court the main arbiter in the framing of reorganization plans.

A Compromise—The Senate amendments, which proposed to apply the revamp procedures on a mandatory basis to certain roads already in the hands of the courts, were sponsored by Senators Reed, Republican of Kansas, and Myers, Democrat of Pennsylvania. A compromise reached with Senate opponents of those proposals brought the final version's toned-down provisions in that respect. These were accepted by the House along with other Senate amendments. Among the latter was that which will permit the voluntary revamp plans to modify stocks as well as evidences of indebtedness; and that which will have the effect of requiring the I.C.C. (upon petition by an interested party and under specified circumstances) to reconsider approved reorganization plans for bankrupt roads in the light of new developments or changed conditions.

The report on the final version of the bill, which came from the Senate committee on interstate and foreign commerce, said that its "principal use" would be in the employment of the voluntary revamp procedures as they apply to roads not in the hands of the courts. In that connection, it is made lawful, with the approval and authorization of the commission, for a railroad to modify the provisions of any of its securities except equipment trust certificates or other evidences of indebtedness secured by equipment.

The first step is the filing of an application with the commission, which may require the applicant to secure assurances of assent to the proposed modification by holders of a percentage (to be determined by the commission) of the aggregate principal amount or number of shares outstanding of the securities affected. Whether or not it requires such a prima facie showing of assents, the commission must set the application for public hearing and the applicant carrier must give "reasonable" notice of such hearing to persons having an interest. Findings which must be made by the commission as a prerequisite to approval of a proposed revamp include a holding that the proposal is in the public interest; that it will be "in the best interests of the carrier, of each class of its stockholders, and of the holders of each class of its obligations affected"; and that it "will not be adverse to the interest of any creditor of the carrier" not directly affected.

Basis of Approval—Next, the commission is required to cause the applicant carrier to submit the proposed plan to interested security holders; and approval of the commission may not be granted unless the plan is assented to by the holders of at least 75 per cent of the aggregate principal amount or number of shares outstanding of each class of securities affected. In the latter connection, the commission is given authority to require a larger percentage of assent "in any case where 75 per cent is held by fewer than 25 holders." When the assents are obtained, the commission is required to enter its order approving and authorizing the alteration.

Such an order makes the plan binding as to the holder of any of the securities affected. There is also a provision stipulating that the commission's power in the premises "shall be exclusive and plenary," and that any carrier acting pursuant to a commission order is relieved from restraints of all other laws and from any obligation to secure approval of any state authority. To emphasize that the voluntary-revamp procedures are to remain voluntary and to be thus limited, the act contains this language: "The provisions of this section are permissive and not mandatory and shall not require any carrier to obtain authorization and approval of the commission hereunder for the making of any alteration or modification of any provision of any of its securities or of any class thereof or of any provision of any mortgage indenture, deed of trust, corporate charter, or other instrument, which it may be able lawfully to make in any other manner, whether by reason of provisions for the making of such alteration or modification in any such mortgage, indenture, deed of trust, corporate charter, or other instrument, or otherwise: Provided, that the provisions of paragraph (2) of section 20a, if applicable to such alteration or modification made otherwise than pursuant to the provisions of this section, shall continue to be so applicable."

Protective Clauses—There are other provisions relating to such matters as the determination of what securities are to be deemed to be outstanding when a revamp plan is proposed; the applicability to carriers which are liable as guarantors of securities involved; and relief from the normal tax on the transfer and exchange of securities. Another provision was singled out for special comment by members of the Senate-House conference committee which reconciled the differing versions of the bill. It is that which requires that "all letters, circulars, advertisements, and other communications, and all financial and statistical statements" used in soliciting assents or opposition to a proposed revamp plan "shall, before being so used, be submitted to the commission for its approval as to correctness and sufficiency of the material facts stated thereon."

The statement of the House members of the conference committee called this provision "necessary," but added that while it "should be applied so as to fully protect the interests of affected parties, it is not intended to operate in such a way as to impose unnecessary censorship of normal or ordinary correspondence between a carrier and a stockholder." In a similar statement, the Senate members of the conference committee suggested that the commission "construe the language liberally so as to protect the public interest but at the same time not require the commission to scrutinize all correspondence."

The compromise provisions relating to roads in bankruptcy would permit those involved in section 77 proceedings to undertake a voluntary revamp if on

the date of the enactment of this legislation there had not been a final consummation of a plan of reorganization. Railroads in receivership would be eligible if on the enactment date their properties had not been sold at a foreclosure sale and the order of sale confirmed. In either such case the road must first file an application with the court, which has custody over its properties, for authority to take advantage of the voluntary adjustment procedure. That application must be accompanied by a showing that holders of at least 25 per cent of the aggregate amount of securities affected by the proposed plan are in accord with it. The court has final authority to grant or withhold the permission sought.

Applicability to Bankrupts—If it acts favorably on the petition, the bankruptcy or receivership proceeding will be suspended until such time as the commission has advised the court that it has approved the proposed revamp, or that the application filed with it has been otherwise disposed of; or that 12 months have elapsed since the filing of the application and no plan has been approved by the commission. Thus the roads in bankruptcy or receivership will have a maximum of 12 months to work out a voluntary readjustment plan. Meanwhile, the court will retain custody of the property; but if a plan is approved by the commission, and is satisfactory to the court, the bankruptcy or receivership proceeding will be terminated, and the custody of the property will be restored to the debtor.

In indicating that it did not expect much, if any, use of the act's procedures by bankrupt roads, the Senate committee pointed out in its report that the larger railroads in bankruptcy have completed their reorganizations. At the same time, the report listed 22 roads in bankruptcy or receivership, which might qualify if they desired.

The "more important" provisions relating to bankrupt roads were identified by the Senate committee as those providing for reconsideration of approved reorganization plans by the commission. The first of those provisions relates to reorganization plans hereafter approved by the commission, and provides that, at any time more than 18 months after the commission has either certified a plan to a court or has disposed of a like petition, any party affected may file a petition; and it shall be the duty of the commission to report to the court any new developments or changed conditions which make it necessary or expedient for the commission to reexamine or revise the plan. Such a petition cannot be entertained, however, in those cases where an order confirming the plan has been entered, unless an appeal from such an order is pending in the courts or the time for filing such appeal has not expired.

Another provision is substantially the same as the foregoing, but permits the court, instead of the commission, to receive a petition and give consideration to the matter of changed conditions. If the court finds such action warranted, it may return the plan to the commission for revision. A third provision along the same lines stipulates that, in certain reorganization cases still pending, the commission must report to the court any developments which have taken place since December 31, 1939, and which were not provided for in the plan it approved.

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 130 reports (Form 1BS) representing 134 steam railways
(Switching and Terminal Companies not Included)

	United States	
	For the month of January	
Income Items	1948	1947
1. Net railway operating income	$41,297,149	$56,498,860
2. Other income	19,089,249	16,336,981
3. Total income	60,386,398	74,835,841
4. Miscellaneous deductions from income	3,845,208	3,274,537
5. Income availagle for fixed charges	56,541,190	71,561,304
6. Fixed charges:		
6-01. Rent for leased roads and equipment	9,762,079	10,372,181
6-02. Interest deductions[1]	24,343,750	26,351,502
6-03. Other deductions	143,235	137,591
6-04. Total fixed charges	34,249,064	36,861,274
7. Income after fixed charges	22,292,126	34,700,030
8. Other deductions	3,584,665	2,937,100
9. Net income	18,707,461	31,762,930
10. Depreciation (Way and structures and Equipment)	30,111,771	28,886,238
11. Amortization of defense projects	1,368,598	1,366,007
12. Federal income taxes	23,863,324	23,944,532
13. Dividend appropriations:		
On common stock	3,158,609	2,902,627
On preferred stock	2,325,748	2,582,269
Ratio of income to fixed charges (Item 5÷6-04)	1.65	1.94

	Balance at end of January	
Selected Expenditure and Asset Items	1948	1947
17. Expenditures (gross) for additions and betterments—Road	$22,360,436	$15,623,377
18. Expenditures (gross) for additions and betterments—Equipment	63,209,091	32,117,008
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	581,218,272	580,209,251
20. Other unadjusted debits	160,536,771	167,653,660
21. Cash	938,320,448	930,845,610
22. Temporary cash investments	966,973,791	1,047,340,900
23. Special deposits	143,464,075	165,751,160
24. Loans and bills receivable	12,629,717	366,985
25. Traffic and car-service balances—Dr.	52,929,125	46,021,711
26. Net balance receivable from agents and conductors	123,517,505	126,891,928
27. Miscellaneous accounts receivable	330,478,674	291,691,678
28. Materials and supplies	779,875,851	674,337,556
29. Interest and dividends receivable	13,554,826	13,959,581
30. Accrued accounts receivable	174,271,198	175,928,007
31. Other current assets	33,890,205	57,163,725
32. Total current assets (items 21 to 31)	3,569,905,415	3,530,308,841
40. Fund. debt maturing within 6 months[2]	$125,614,021	$189,145,625
41. Loans and bills payable[3]	4,035,000	9,745,600
42. Traffic and car-service balances—Cr.	92,353,662	96,443,233
43. Audited accounts and wages payable	529,433,238	475,697,693
44. Miscellaneous accounts payable	235,946,659	187,516,117
45. Interest matured unpaid	47,076,289	53,270,076
46. Dividends matured unpaid	7,247,335	7,551,517
47. Unmatured interest accrued	75,537,330	68,401,134
48. Unmatured dividends declared	18,578,571	19,795,787
49. Accrued accounts payable	180,038,758	162,682,499
50. Taxes accrued	694,062,042	433,075,367
51. Other current liabilities	110,126,502	98,401,257
52. Total current liabilities (items 41 to 51)	1,994,435,386	1,612,580,280
53. Analysis of taxes accrued:		
U. S. Government taxes	570,518,496	320,573,207
Other than U. S. Government taxes	123,543,546	112,502,160
54. Other unadjusted credits	343,295,911	360,222,358

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Waybill Data Indicate Weight of 1947 Carloads

The Bureau of Transport Economics and Statistics of the Interstate Commerce Commission has issued tabulations showing, on a sample basis for selected commodity classes, the percentage distribution of 1947 carloads by weight brackets. The compilation, which is statement No. 488 of the bureau, was prepared from data taken from waybills submitted in response to the commission's September 6, 1946, order requiring Class I roads to file all audited waybills representing their carload terminations which are numbered "1" or with digits ending "01." The waybills used were those received by the bureau through last September—representing terminated traffic which originated in 1947.

Among commodities in the products-of-agriculture group, wheat showed the highest percentage (57 per cent) of carloads weighing 100,000 lb. and over. In the 80,000-100,000 lb. bracket, malt NOS led with 62 per cent. Mill products NOS headed the 60,000-80,000 lb.

bracket with 81 per cent, while citrus fruits NOS were on top of the 40,000-60,000 bracket with 97 per cent. In the 20,000-40,000 lb. bracket there were three 100 per cent entries—cantaloupes, fresh peaches, and celery. The highest percentage in the under-20,000 lb. bracket was that of cotton in bales—24 per cent.

Animals and products NOS headed two brackets in the listing of commodities in the animals-and-products group —100,000 lb.-and-over with 9 per cent and 60,000-80,000 lb. with 42 per cent. Meanwhile the intermediate 80,000-100,000 lb. bracket was headed by hides, skins and pelts with 11 per cent; while cheese, with 72 per cent; headed the 40,000-60,000 lb. bracket. Most of the carloads in the animals-and-products group fell within the 20,000-40,000 lb. bracket which was headed by the horses, mules and ponies classification with 99 per cent.. The under-20,000 lb. bracket was headed by swine SD with 85 per cent.

Excluding the classification anthracite coal to washeries with its 98 per cent, the 100,000 lb.-and-over bracket in the products-of-mines group was headed by fluxing stone with 97 per cent. Here the 80,000-100,000 lb. bracket was headed by clay and bentonite with 37 per cent; the 60,000-80,000 lb. bracket by crude petroleum with 83 per cent; and the 40,000-60,000 lb. bracket by coke with 30 per cent. Only two entries were here shown in the 20,000-40,000 lb. bracket—ore and concentrates, 4 per cent, and salt, 2 per cent. There were no entries for products of mines in the under-20,000 lb. bracket.

Among products of forests, the 100,000 lb. and over bracket was headed by pulpwood with 10 per cent; and that commodity and fuel wood headed the 60,000-80,000 lb. bracket, each with 41 per cent, the intermediate 80,000-100,000 bracket being headed by logs, butts and bolts with 49 per cent. Other leaders in this group were: 40,000-60,000 lb., rosin and turpentine, 65 per cent; 20,000-40,000 lb., box materials, 36 per cent; under 20,000 lb., products of forests NOS, 4 per cent.

In the manufacturers-and-miscellaneous group, the 100,000 lb.-and-over bracket was headed by iron and steel (billet, bloom and ingot) and iron and steel NOS, both with 82 per cent. Other leaders in this group were: 80,000-100,000 lbs., molasses residual, 80 per cent; 60,000-80,000 lb., soybean oil, 84 per cent; 40,000-60,000 lb., alcoholic liquors, 70 per cent; 20,000-40,000 lb., rubber tires and tubes, 84 per cent; under 20,000 lb., passenger automobiles, 96 per cent.

Money for I.C.C. and Roads Administration

Congressional action was completed April 8 on the Independent Offices Appropriation Bill for the fiscal year ending June 30, 1948, when the Senate and House agreed on provisions reconciling their differing versions. The final version carried $10,894,317 for the Interstate Commerce Commission—$151,317 more than the commission has received during the current fiscal year, but $334,683 less than the fiscal 1949 appropriation recommended for it in President Truman's Budget.

The bill also carries $435,588,854 for the Public Roads Administration, including $427,288,854 for the federal-aid post-war highway system and $7,300,000 for grade crossing elimination and protection work. The President's budget had proposed $452,288,854 for the highway system.

R.F.C. Files Rate Complaints

Reparations totaling $1,286,278 are sought by the Reconstruction Finance Corporation in three rate complaints filed with the Interstate Commerce Commission. The complaints assail railroad rates paid by R.F.C's former subsidiary, Metal Reserves Corporation, on various shipments of aluminum and tin.

Receiving Acceptance of New Plan for Allocation of Steel

The Department of Commerce's Office of Industry Cooperation stated this week that, as of April 12, it had received notices of compliance from 105 prospective participants in the new "voluntary" agreement for the allocation of steel for use in the freight car building and repair program. The plan, which was framed to conform with Public Law 395 enacted December 30, 1947, will supplant the allocation arrangements worked out last year by the Office of Defense Transportation and the Steel Industry.

The 105 notices of compliance received as of April 12 came from 64 railroads, 20 steel companies, 2 contract car builders, 16 component parts manufacturers, and 3 private car lines. The O.D.T. plan had 276 participants, including 134 railroads, 32 steel producers, 23 pig iron producers, 11 contract car builders, 68 component parts manufacturers, and 8 private car lines.

Equipment Depreciation Rates Prescribed for Two Roads

Equipment depreciation rates for the Chicago, Rock Island & Pacific and the New York Central are among those prescribed by the Interstate Commerce Commission in a recent series of sub-orders in the general proceeding, Depreciation Rates for Equipment of Steam Railroad Companies.

The rates for the Rock Island are prescribed in Sub-order No. 747, which is the initial sub-order for the reorganized company. They are as follows: Steam locomotives, 2.85 per cent; other locomotives, 5.52 per cent; freight-train cars, 3.39 per cent; passenger-train cars, 3.47 per cent; work equipment, 3.83 per cent; and miscellaneous equipment, 13.6 per cent. The rates for the N.Y.C. are prescribed in Sub-Order No. 142-B, which is a modification of Sub-Order No. 142-A. They are as follows: Steam locomotives, owned, 3.4 per cent, leased, 3.8 per cent; other locomotives, owned, 3.3 per cent, leased, 6 per cent; freight-train cars, owned, 3.23 per cent, leased, 3.84 per cent; passenger-train cars, owned, 2.96 per cent, leased, 3.07 per cent; floating equipment, owned, 2.74 per cent; work equipment, owned, 3.84 per cent, leased, 4.07 per cent; miscellaneous equipment, owned, 15.5 per cent, leased, 17.84 per cent.

Emergency Boards Created

President Truman on April 10 issued executive orders creating emergency boards to investigate disputes which brought recent strike threats to the Pennsylvania and the Aliquippa & Southern.

As reported in the *Railway Age* of April 3, page 57, the P.R.R. dispute arises out of working-rules demands and other claims presented by the Brotherhood of Locomotive Firemen & Enginemen. The A.&S. controversy is a rules dispute involving employees represented by the Brotherhood of Railroad Trainmen.

Bills in Congress

Bills to increase benefit payments under the Railroad Retirement and Railroad Unemployment Insurance acts have been introduced in the Senate by Senator Aiken, Republican of Vermont. for himself and Senators Morse of Oregon, Ives of New York, Republicans, Thomas of Utah, Hill of Alabama, Murray of Montana, and Pepper of Florida, Democrats. Like the measures introduced in the House by Representative Crosser, Democrat of Ohio, the bills, S.2437 and S.2438, would increase Retirement-Act benefits by 20 per cent and Unemployment-Act benefits by 25 per cent. Mr. Thomas has also introduced "by request" another bill, S.2423, to liberalize the Retirement Act in various respects.

Senator Reed, Republican of Kansas, has introduced S.2426, proposing various Interstate Commerce Act amendments which have been recommended by the Interstate Commerce Commission. A similiar House bill, sponsored by Representative Wolverton, Republican of New Jersey, has been reported favorably from the House committee on interstate and foreign commerce of which Mr. Wolverton is chairman (see *Railway Age* of April 3, page 58).

Senator Hill, Democrat of Alabama, has introduced S.2296, to authorize the government-owned Inland Waterways Corporation to extend its barge-line operations to the Tennessee and Cumberland rivers and on the Ohio river and its tributaries above the confluence with the Cumberland.

Representative Leonard W. Hall, Democrat of New York, has introduced H.R.6078 to amend section 303 (e) of

the Interstate Commerce Act so as to authorize the I.C.C. to exempt from regulation the transportation by water of passengers between points in the United States by way of a foreign port or ports, upon a finding that such regulation is not necessary to carry out the national transportation policy.

Bills to carry out various recommendations of the Congressional Air Policy Board's recent report have been introduced in the Senate and House. More than a score of bills went to each chamber, the Senate bills being sponsored for the most part by the board's chairman, Senator Brewster, Republican of Maine, and their House counterparts by the vice-chairman, Representative Hinshaw, Republican of California.

The board's report, which made 92 recommendations including many relating to commercial aviation, was reviewed in the *Railway Age* of March 20, page 91. Among the Brewster and Hinshaw bills are those to provide for an air parcel-post service; to divert to the air lines first-class mail on which delivery would thereby be "appreciably expedited"; to increase the Civil Aeronautics Board's regulatory control over contract carriers by air; to provide "for the avoidance of multiple taxation of air commerce"; and to establish a joint congressional committee on aviation policy.

Additional Year Sought by S.P. In Which to Install AB Brakes

The Southern Pacific has asked the Interstate Commerce Commission to extend for one year from January 1, 1949, the time within which it will be required to complete the installation of AB power brakes on both its interchange and non-interchange freight cars. The commission's 1945 order in the Docket No. 13528 proceeding directed all roads to equip all of their cars used in freight service, except those equipped with passenger-car brakes, with power brakes and appliances for operating power brake systems, conforming to the specifications prescribed by the commission. The order was noted in *Railway Age* of September 29, 1945, page 532.

Would Authorize U. S. Membership In Pan-American Rail Congress

The Senate committee on foreign relations has reported favorably to the Senate a resolution which would provide for participation by the United States government in the Pan-American Railway Congress. The resolution, S. J. Res. 177, is sponsored by the committee's chairman, Senator Vandenberg, Republican of Michigan.

It would authorize the President to bring the United States into membership in the Congress which is described as "a permanent international association designed to promote the study, discussion and possible solution of railway problems in the Americas." It would also authorize the appropriation of $5,000 annually for payment of this country's proportionate share of the Congress' expenses; and "such additional sums as may be needed as incidental to our participation."

The committee's report noted that the latest session of the Congress was held recently at Havana, Cuba, where the U.S. was represented by an "observer group." As reported in the *Railway Age* of March 27, page 62, President W. T. Faricy of the Association of American Railroads was a member of that group.

President Orders Higher Panama Canal Tolls

President Truman has issued a proclamation increasing Panama Canal toll rates, effective October 1. The President acted under authority granted him by a provision of the Canal Zone Code which, however, required the six-months notice.

On merchant vessels, when carrying passengers or cargo, the rate will go up from 90 cents to $1 "per net vessel-ton of 100 cubic feet each—that is, the net tonnage determined in accordance with the Rules for Measurement of Vessels for the Panama Canal." On vessels in ballast without passengers or cargo, the rate will go up from 72 to 80 cents per vessel-ton.

As noted in the *Railway Age* of March 13, page 97, these increases were recommended in the House appropriation committee's report on the War Department civil functions appropriation bill for the fiscal year ending June 30, 1949.

February Truck Traffic

Motor carriers reporting to the American Trucking Associations transported in February 2,282,134 tons of freight, a decrease of 2.2 per cent below the January total of 2,332,971 tons, but an increase of 9.7 per cent over the 2,080,303 tons hauled in February, 1947. The A.T.A. index number, based on the 1938-40 average monthly tonnage of the reporting carriers, was 205.

The February figures, according to the A.T.A., are based on comparable reports from 270 carriers in 43 states. Carriers in the Eastern district reported a decrease of 2 per cent below January, but an increase of 9 per cent over February, 1947; carriers in the Southern region reported a decrease of 3.2 per cent below January, but an increase of 16.5 per cent above February, 1947; and carriers in the Western district reported a decrease of 2.1 per cent below January, but an increase of per cent over last February.

Long Island Sponsors Daily Radio Program

The Long Island has announced it is now sponsoring a radio program heard daily, except Sunday, between 7 p.m. and 7:30 p.m. over stations WHLI-WHNY, Hempstead, N. Y. Entitled "All Aboard," the program will feature national and local news, as well as weather reports, Long Island events for the day and recorded music. In addition, recorded interviews with commuters on railroad station platforms will be presented. The interviews will be in the form of quizzes, and theater tickets will be awarded to the winners.

Railroad Radio Service License Rules Amended by F.C.C.

Licenses for each station in the railroad radio service will be issued for a period of from one to five years, with the term varying as may be necessary to permit the orderly scheduling of renewal applications, according to amended regulations which have been approved by the Federal Communications Commission. The amended regulations, which become effective April 30, also provide that each state license normally will be renewed, upon proper application to the F.C.C., for a term of four years from the effective date of renewal.

D.C. Practitioners Donate $500 Toward Eastman Foundation

Announcement of a $500 donation by the Washington, D. C., Chapter of Interstate Commerce Commission Practitioners to the Joseph B. Eastman Foundation at Amherst College, Amherst, Mass., was made at an April 13 luncheon-meeting of the chapter. The fund, to be administered by the president and trustees of the college, will be applied toward the establishment of a chair in transportation. The late Commissioner Eastman was an alumnus of Amherst and later served as a member of its board of trustees.

Carl R. Gray, Jr., former vice-president of the Chicago & North Western, and now Veterans Administrator, was the principal speaker. He was introduced by William T. Faricy, president of the Association of American Railroads. Roland T. Rice, assistant general counsel of the A.A.R., presided.

Black Market Ticket Bills Introduced in Congress

Bills to "penalize black marketing of transportation tickets" have been introduced in the Senate by Senator Holland, Democrat of Florida, and in the House by Representative Lea, Democrat of California. They are identical bills—S.2467 and H.R.6164—which propose to amend the Interstate Commerce Act and Civil Aeronautics Act.

The proposed I.C. act amendments would make it unlawful for any person to pay or receive more than the published rate for tickets covering transportation or other accommodations by carriers subject to parts I and II of the act, i.e., rail and motor carriers. A limit of $1 would be fixed for service charges in connection with the procurement of a

ticket—unless the procurer gives a detailed receipt showing the amount paid for the ticket and the service charges.

Another provision would require carriers to cancel reservations not paid for "for three hours within the 24 hours immediately preceding the transportation for which the ticket, if paid for, would entitle the holder thereof." With respect to tickets presented for refund within such 24-hour period, the carrier would be forbidden to redeem them for more than 90 per cent of the original price.

The penalty for violation would be a fine of not more than $1,000 or imprisonment for one year, or both. Similar provisions with respect to tickets for air transportation are proposed in that section of the bill which would amend the Civil Aeronautics Act.

Would Repeal Transport Taxes

Bills to repeal the taxes on amounts paid for the transportation of property and persons have been introduced in the Senate by Senator Brewster, Republican of Maine (for Senator Hawkes, Republican of New Jersey) and in the House by Representative Stefan, Republican of Nebraska. They are S.2463 and H.R.6150.

Two Roads Fined $2,000 Each

The Interstate Commerce Commission has been advised that pleas of *nolo contendere* to two counts of an information charging violations of the Elkins Act were entered by the Chicago Great Western in the federal district court at Waterloo, Iowa, on April 5. A fine of $2,000, plus costs, was imposed. According to the commission's notice, the information charged that the railroads had granted rebates to a shipper of livestock at Dyersville, Ia., through the device of paying pick-up compensation on portions of shipments upon which no pick-up compensation was due.

The commission also has been advised that pleas of *nolo contendere* to two counts of an information charging violations of the Elkins Act were entered in the same court by the Chicago, Milwaukee, St. Paul & Pacific and that that carrier also was fined $2,000, plus costs. The commission's notice said that the information charged that the road had failed to observe strictly the provisions of its pick-up-of-livestock tariff at Bellevue, Iowa, in that it performed the pick-up service on shipments of livestock moving to destinations not named in its pick-up tariff.

Travelers Aid Society Opens New Booth in Grand Central

The Travelers Aid Society of New York last week opened a new service booth on the north balcony of the Grand Central Terminal, New York. In a brief ceremony, Gustav Metzman, president of the New York Central, and Howard S. Palmer, president of the New York, New Haven & Hartford, gave the key to the new booth to Edward E. Watts, Jr., president of the society.

This new booth in New York's Grand Central Terminal was opened last week

Constructed of marble and measuring 24-ft. by 10-ft., the new booth is divided into an enclosed office where confidential interviews can be held and an outside counter room where three assistants can serve inquirers. The booth is equipped with cabinets and racks of natural maple, fluorescent lighting and a built-in ventilation system. Sliding glass panels permit closing of the booth at night. The booth will be staffed by 15 social workers and 25 volunteers whose hours are distributed throughout each weekday from 8 a.m. to 9. p.m.

Wayne Johnston Named To R. E. A. Board

Wayne A. Johnston, president of the Illinois Central, has been elected a member of the board of directors of the Railway Express Agency, succeeding Scott M. Loftin, trustee of the Florida East Coast, who has resigned.

A.A.R. Reports Record Sugar Beet Movement in 1947

More sugar beets were moved to the refineries by railroad in 1947 than in any previous year, the Car Service Division of the Association of American Railroads has reported to the Interstate Commerce Commission. Movement of sugar beets in the producing areas of the central western and northwestern districts of the United States totaled 145,137 carloads last year. This exceeded by about 13,000 cars the previous record established in 1942. It was also an increase of 30,977 cars, or 27 per cent, above 1946, and 50,547 cars, or 53 per cent, above 1945.

Approximately 8,000 gondola cars and a limited number of other cars were assigned to move the sugar beet traffic in 1947. The C. S. D. said that, while there were some tight spots, no actual car shortage occurred during the harvest season "as the result of the cooperation of shippers and the railroads." The sugar beet traffic included in the report originated, for the most part, in Colorado, Idaho, Kansas, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Wyoming and Washington.

Suggests Rule to Provide Pay Offset in Reinstatement Cases

Reporting on a dispute which brought a recent strike threat to the Terminal Railroad Association of St. Louis, an emergency board has made the suggestion that the management and unions should undertake to agree on a rule to end the controversy over whether pay due a reinstated employee for "all time lost" should be reduced by amounts received in other employment during the period of his "unjust" suspension or dismissal. As to the cases before it, the board found that it should not attempt to review actions of the National Railroad Adjustment Board, which had allowed the pay offset; but it advised the interested unions that they could procure such a review by application to the United States District Court.

The case involved two yardmen who were discharged by the Terminal but won reinstatement as a result of an Adjustment Board decision rendered by a referee with the labor members of the board's First Division. The applicable working rule required that the men be paid for "all time lost," and the carrier petitioned the Adjustment Board for an interpretation of the award, i.e., whether or not the payment should be reduced by amounts earned by the re-

instated employees in other employment, one of them having received $14,359.20 in the employ of another carrier.

The same referee, but this time with the carrier members of the First Division, rendered an interpretation which permitted the offset. That brought the strike threat. The employees involved were represented by the Brotherhood of Railroad Trainmen, but the Brotherhood of Locomotive Engineers and Brotherhood of Locomotive Firemen & Enginemen also participated in the case.

The emergency board noted that the applicable rule, or one substantially like it, is contained in nearly all working agreements on the railroads. It added that the meaning of the phrase "paid for all time lost" has been in dispute "for at least the last three decades," and the Adjustment Board has decided the matter "both ways, including with and without referees." In making its suggestion that the unions are free to appeal to the court, the board asserted that "in these circumstances, a strike to attempt to change the result in these two cases would be utterly unjustifiable."

It went on to say that if the unions do not see fit to institute a court proceeding, the controversy "will continue . . . ad infinitum, in the hope that some other referee would reach the opposite conclusion on the merits." The board then made its own suggestion, which was that "one solution" would be a new rule providing "that the employee would receive full pay for all time lost without setoff up to the time the highest management official handling the matter may deny the claim; that if the claim is thereafter prosecuted before the Adjustment Board . . . the carrier should be entitled to setoff any earnings of the employee between the time of the declination of the highest management official and reinstatement."

In support of this proposal, the board argued that generally after final declination by the management, the employee would seek other employment; and that it would be "unconscionable for him to be awarded full pay for the entire elapsed time, notwithstanding he may have earned substantially as much in other employment." Members of the board were Chairman Frank M. Swacker, George Cheney, and James H. Wolfe. Mr. Cheney filed a separate concurring opinion, stating that he joined in the majority's findings of fact; but he thought the board's function was wholly fact-finding and that it should have made no recommendation.

This pay-offset matter was considered also by the emergency board which recently passed upon the nationwide wage and rules case involving the B. of L.E., B. of L.F.&E. and Switchmen's Union of North America. The carriers had proposed a rule providing for pay offsets; and that board expressed sympathy but found itself unable to make a recommendation because "this whole issue is thrown into doubt by the serious question which has been raised as to the legal authority of the Adjustment Board to 'consider matters outside the property' in computing damages where an employee is wrongfully held out of service." (See *Railway Age* of April 3, page 50).

Freight Car Loadings

Loadings of revenue freight in the week ended April 10 totaled 683,852 cars, the Association of American Railroads announced on April 15. This was 22,045 cars, or 3.3 percent, above the previous week, 73,987 cars, or 9.8 percent, less than the corresponding week last year, and 34,554 cars, or 5.3 percent, above the corresponding 1946 week.

Loadings of revenue freight for the week ended April 3 totaled 661,807 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings
For the Week Ended Saturday, April 3

District	1948	1947	1946
Eastern	134,389	147,372	132,863
Allegheny .	140,204	152,982	132,889
Pocahontas	22,019	28,766	21,154
Southern ..	114,415	122,260	115,920
Northwest.	81,054	85,834	78,062
Cen. West.	107,230	116,235	103,374
Southwest. .	62,496	61,710	59,382
Tot. West. Dis.	250,780	263,779	240,818
Tot. All Rds.	661,807	715,159	643,644
Commodities:			
Grain & Gr. prdds. ...	38,101	49,189	37,574
Livestock ..	8,582	12,739	16,006
Coal	48,471	64,830	33,618
Coke	10,198	11,478	8,891
For. prods.	44,300	47,394	42,650
Ore	17,718	17,735	9,609
Mdse. l.c.l.	113,520	126,841	128,028
Misc.	380,917	384,953	367,268
April 3..	661,807	715,159	643,644
March 27..	664,375	829,392	809,142
March 20..	700,482	844,041	804,606
March 13..	797,033	841,147	799,906
March 6..	792,571	805,775	786,189
Cumulative total, 14 weeks	10,518,190	11,232,892	10,376,623

In Canada.—Carloadings for the week ended April 3 totaled 74,459 cars as compared with 68,813 cars for the previous week and 66,639 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Tot. Cars Rec'd from Connections
Totals for Canada:		
April 3, 1948	74,459	36,528
April 5, 1947	66,639	40,354
Cumulative totals for Canada:		
April 3, 1948	1,003,419	502,691
April 5, 1947	951,621	522,608

Start New Frisco "Meteor" Between St. Louis-Oklahoma on May 14

A new, streamlined Diesel-powered "Meteor" passenger train of the St. Louis-San Francisco will go into service between St. Louis, Mo., Springfield, Tulsa, Okla., and Oklahoma City on May 14, on a schedule 3 hr. and 13 min. faster than at present. The train will depart southbound from St. Louis at 10:45 p.m. daily and arrive in Tulsa at 7:17 a.m. and Oklahoma City at 9:45 a.m. on the following day. Northbound, the new equipment will depart from Oklahoma City at 8 p.m. and from Tulsa at 10:40 p.m., arriving at St. Louis at 7:45 a.m. on the following day.

The new "Meteor" will consist of 12 cars of the latest design. All sleeping car accommodations will be enclosed, each with 14 roomettes and four double bedrooms. Chair cars will be equipped with 56 "Sleepy-Hollow" seats and large no-glare windows. Other cars to be included on the new train are a chair-lounge where light food and refreshments will be served, and an observation lounge-diner.

Faricy Presents Rail Congress Medal to President Truman

William T. Faricy, president of the Association of American Railroads, on April 13, presented to President Truman a silver medal sent him by the Sixth Pan-American Railway Congress, which recently convened in Havana, Cuba. Mr. Faricy told the President that the medal was "a token of remembrance of the congress and an acknowledgment of the interest in its work displayed by the United States government in having sent a group of observers."

The A.A.R. president, who had attended the congress as an observer for the State Department, made the presentation in the presence of Seymour T. R. Abt, of the Office of International Trade of the Department of Commerce, also an observer at the congress.

Magnaflux Conference Features Railroad Officers' Addresses

In addressing the second national conference on railroad inspection with Magnaflux and Zyglo, sponsored by the Magnaflux Corporation at the Congress Hotel, Chicago, on April 12 and 13, F. K. Mitchell, general superintendent of motive power and rolling stock of the New York Central, stressed the importance of determining what equipment parts need checking with these inspection methods and organizing the work so it can be done on a production basis and not be a bottleneck in repair shop operation. He said that, with only about one defective axle discovered in about 350 examined, for example, inspectors must be not only taught what to look for and where, but impressed with the importance of their work and the urgent necessity of detecting and eliminating even this single infrequent defect.

The two-day conference was attended by about 150 men from railroads throughout the country. In addition to Mr. Mitchell, other speakers and subjects included in the program were as follows: (1) Inspection of Car Parts, by A. R. Hoekstra, welding engineer, the Pullman Company, and R. H. Herman, engineer of shops and equipment, Southern; (2) Inspection of Diesel Locomotives, by R. H. Russell, assistant electrical engineer, Great Northern, Ray McBrian, engineer of standards and research, Denver & Rio Grande Western, and L. E. Simon, chief metal-

lurgist, Electro-Motive Division, General Motors Corporation; (3) Track Reclamation, by S. E. Tracy, superintendent work equipment, Chicago, Burlington & Quincy; (4) Inspection of Steam Locomotives, by J. J. Laudig, research engineer, Delaware, Lackawanna & Western; and (5) Inspection Specifications, by C. E. Betz, executive vice-president, Magnaflux Corporation.

Large Research Lab Near Chicago For Portland Cement Association

Bids are being received for the construction of a modern research laboratory of the Portland Cement Association, to occupy a 15-acre tract at Skokie, Ill., 15 miles north of Chicago, Frank T. Sheets, president, has announced. The laboratory will consist of two concrete buildings having a floor area of 98,000 sq. ft. and will contain more than 25 specialized laboratories, moist curing rooms, fog rooms, low temperature rooms and freezing and thawing rooms, with provisions to facilitate research into the durability of concrete structures under all climatic conditions. The new facility will be equipped with modern scientific apparatus, including a 1,000,000-lb. compression testing machine. Also to be provided are an auditorium, technical library, reading room and cafeteria.

Travel-Bureau Bill

Representative Wolverton, Republican of New Jersey, who is chairman of the House committee on interstate and foreign commerce, has introduced H.R.-6136 to set up the Interior Department's travel-promotion division as a bureau within that department. The new bureau, headed by a director, would be known as the United States Travel Bureau.

At present the promotional activities are carried on by a division of the National Park Service, which last year resumed such operations after they had been suspended during the war. The Wolverton bill would authorize the proposed new bureau to promote travel within the United States, its territories and possessions, provided such activities "do not compete with activities of private agencies."

I.C.C. and O.D.T. Suspend Coal Conservation Orders

Anticipating an early resumption of normal bituminous mining operations as the striking miners began returning to work on April 13, the Interstate Commerce Commission and Office of Defense Transportation on that day suspended until further notice their orders which had required railroads to reduce coal-burning locomotive mileage. The suspensions came two days before the April 15 effective date of amendments to the orders which would have increased the required reductions from 25 per cent to 50 per cent.

The cut in freight-service locomotive mileage was required by I.C.C. Service Order No. 811, which became effective at 11:59 p.m. March 30, while the curtailment of passenger-locomotive mileage was required by General Order ODT 69, which became effective at 11:59 p.m. March 21 (see *Railway Age* of March 27, page 57). The suspensions, effective at 4 p.m. April 13, came in I.C.C. Service Order No. 811-A and Suspension Order ODT 69-1.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Chicago & North Western** has ordered 1,000 50-ton steel-sheathed box cars and 650 70-ton steel hopper cars from the Pullman-Standard Car Manufacturing Company, and 650 70-ton high-side gondolas from the Bethlehem Steel Company, at Johnstown, Penn., the total cost of which will be more than $10,-160,000. The cars ordered from Pullman-Standard will be built at the Michigan City, Ind., plant. The Chicago, St. Paul, Minneapolis & Omaha, subsidiary of the North Western, will be alloted 150 gondolas and 150 hopper cars of the new order. Delivery of the box cars is scheduled to begin in August and deliveries of the hopper cars and gondolas will start in September and November, respectively. The inquiry for the above equipment was reported in *Railway Age* of February 7.

LOCOMOTIVES

The **Grand Trunk Western** has ordered 11 3,000-hp., two-unit Diesel-electric locomotives from the Electro-Motive Division of General Motors Corporation, to be used in freight service between Chicago and Port Huron, Mich. Delivery of the locomotives is scheduled to begin next June, at the rate of two each month. Receipt of this equipment will increase the road's Diesel fleet to 47.

The Chicago Great Western has ordered the following Diesel-electric locomotives from the Electro-Motive Division of General Motors Corporation: Two 6,000-hp. freight and three 1,500-hp. "B" units, all for road service, and three 1,000-hp. switchers. The delivery of these locomotives—scheduled for the summer of 1949—will complete the road's Dieselization, with the exception of branch-line operations.

SIGNALING

The **Pittsburgh & West Virginia** has awarded a contract to the Union Switch & Signal Co. for the installation of centralized traffic control between Connellsville, Pa., and Pittsburgh Junction, Ohio, 111 mi. The control machine will be located at Rook, Pa., near the center of the territory, with the installation involving the use of Style M-22A electric switch machines, Style SL-6A electric locks, and Style R-2 color-light signals, with necessary relays, rectifiers, transformers and housings. This installation provides complete C.T.C. control of train movements from the east to west terminals of the railroad, involving control of two short branch lines.

The **Baltimore & Ohio** has ordered equipment from the General Railway Signal Company for an all-relay electric interlocking to be installed at Bates, Ohio. The control machine, to be installed in BS Tower, will have an 18 by 22-in. panel equipped with 11 track indication lights and 19 miniature levers for the control of 6 switch machines and 10 signals. The most distant controlled point will be 1.8 mi from the tower. Equipment ordered includes Type-K relays, Model-5D dual-control electric switch machines, and Type-U color-position-light signals.

ABANDONMENTS

Central of New Jersey.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon that portion of its so-called New York and Newark branch between Communipaw, N. J. and Kearny, approximately 2.6 miles. The line includes a bridge over the Hackensack river.

Chicago, Milwaukee, St. Paul & Pacific.—Division 4 of the Interstate Commerce Commission has dismissed, without prejudice, this road's application for authority to abandon a line from Junction Switch, Iowa, to Worthington, 9.9 miles. The applicant advised the commission that business along the segment has increased so the line can "just about support itself."

Detroit, Caro & Sandusky.—Examiner P. C. Albus has recommended in a proposed report that Division 4 of the Interstate Commerce Commission authorize this road to abandon that portion of its line extending from Sandusky, Mich., to Peck, 11 miles.

Elgin, Joliet & Eastern.—This company has applied to the Interstate Commerce Commission for authority to abandon operations under a trackage rights agreement over the Chicago & Eastern Illinois between Chicago Heights, Ill., Westville and Jackson, Ind., approximately 200 miles, used irregularly to reach coal mines no longer operated.

Illinois Central. — This company and its lessor, the Chicago, St. Louis & New Orleans, have jointly applied to the In-

(*A list of current publications appears on page* 88.)

terstate Commerce Commission for authority to abondon a line extending 13.6 miles from a point near Coffeyville, Miss., to a point near Grenada, a portion of which will be inundated because of the construction by the federal government of a dam across the Yalobusha river.

At the same time, the applicants seek authority to acquire from the federal government an 11.6 mile line extending from a point near Coffeyville to a point on the line from Memphis, Tenn., to Grenada, which will be operated by the I. C., forming a necessary link between Jackson, Tenn., and that system's main line.

Southern Pacific-Texas & New Orleans-Texas & Pacific-El Paso & Southwestern.—Division 4 of the Interstate Commerce Commission has approved new construction and abandonments, in addition to certain trackage rights agreements, all of which are involved in a joint plan of these roads to rearrange their tracks and thus eliminate numerous grade crossings in El Paso, Tex. Net cost of the project, estimated at $4,611,000, will be shared by the railroads, the city and the Texas highway department.

SUPPLY TRADE

The **Roberts & Schaefer Co.** has announced the removal of its offices in Chicago from 307 North Michigan avenue to enlarged quarters at 130 North Wells street.

George R. Frankland, formerly assistant district manager, industrial products division of the **Johns-Manville Corporation,** has been appointed manager of that division, at Chicago, to succeed **Corydon H. Hall,** resigned. The appointment of **William S. Hough,** formerly manager of the chemical and aviation sections of the special industries department at New York, as assistant district manager of the industrial products division, also was announced.

The **Air Reduction Sales Company** has announced that its apparatus sales and arc welding sales departments have been merged as the equipment sales department. **Dale D. Spoor,** formerly manager of dealer sales, has been appointed manager of the new department; **Ira B. Yates,** formerly manager of arc welding sales will manage arc welding and supplies sales and **J. F. Carroll,** formerly assistant to the apparatus sales manager, has been appointed manager of apparatus sales.

A. B. McCoy, formerly St. Louis, Mo., representative for the Baldwin Locomotive Works, has been appointed by the **Great Lakes Steel Corporation** to handle sales of nailable steel flooring in the St. Louis area.

Richard M. Stone, formerly assistant manager, export department, of **Allis-Chalmers'** tractor division, at Milwaukee, Wis., has been appointed industrial sales manager, succeeding **William J. Faulkner,** resigned. **E. G. Kullmann,** assistant industrial sales manager, has been appointed assistant general sales manager.

George W. Rukgabor, formerly manager of the "Train of Tomorrow," has been appointed district sales representative in the Chicago regional sales office, **Electro-Motive Division** of the General Motors Corporation.

Effective May 1, the Chicago district sales office of the **Whiting Corporation** will be located at the First National Bank Building, 33 South Clark street, Chicago 3. Effective May 10, the firm's district sales office at Pittsburgh, Pa., will be located at the Empire Building, 505 Liberty avenue, Pittsburgh 22.

H. F. Schwarting, formerly general electrical engineer of the **American Car & Foundry Co.,** with headquarters at St. Louis, Mo., has been appointed assistant district manager of the Madison (Ill.) plant.

The election of **John A. Dillon,** 280 Park Avenue, New York, to the board of directors of the **Ralston Steel Car Company** has been announced. Mr. Dillon was formerly vice-president of the Pittsburgh Screw & Bolt Co., Pittsburgh, Pa., and more recently has been associated with the Office of Defense Transportation, Washington, D. C., and the American Car & Foundry Co., New York.

George L. Green, formerly western district sales manager of the American Locomotive Company, at Chicago, has joined the **Pullman-Standard Car Manufacturing Company** in that city, and will be in charge of miscellaneous sales.

Charles S. Silsbee, formerly manager of the **Dearborn Chemical Company's** marine division, with headquarters at New York, has been transferred to Chicago as assistant to vice-president of the industrial feed water sales and engineering department.

OBITUARY

Edward M. Collins, president of the railway supply firm bearing his name at Chicago, whose death was reported in *Railway Age* of March 27, was born on November 14, 1894, at Chicago. Following his graduation from St. Mary's College, at St. Mary's, Kan., in 1915, Mr. Collins returned to Chicago and joined the Linde Air Products Company (subsidiary of the Union Carbide & Carbon Corp.). He entered military service in 1917, and upon his return to Chicago two years later he joined the Oxweld Railroad Service Company (also a subsidiary of Union Carbide). Mr. Collins became vice-president of the Ajax Handbrake Company in 1926, and in 1930 he formed his own company, of which he was president at the time of his death. He was also vice-president and director of the M. & J. Diesel Locomotive Filter Corp.

FINANCIAL

Akron, Canton & Youngstown.—*Annual Report.*—Operating revenues of this road last year amounted to $5,261,889, compared with $4,215,287 in 1946. Operating expenses were $3,548,477, compared with $3,324,225. Net income totaled $611,817, compared with $188,558. Current assets at the end of the year were $2,009,728, compared with $1,454,225. Current liabilities were $1,577,467, compared with $986,312. Long term debt was $3,679,930, compared with $4,000,030. Operating revenues, the report said, were the greatest in the company's history, resulting from an increase in tonnages of 10.7 per cent over the preceding year and the rate increases which became effective on January 1, 1947, and October 13, 1947. It is anticipated that earnings for the current year will equal or exceed those for 1947.

Akron Union Passenger Depot.—*Bonds.*—This company has asked the Interstate Commerce Commission for authority to issue $2,000,000 of first mortgage series A bonds, the proceeds of which will be applied toward the cost of constructing a new passenger station between Center and Exchange streets in Akron, O. The bonds will be dated April 1, will bear interest at a rate to be determined through competitive bidding, and will mature April 1, 1973. Liability of the bonds will be assumed jointly by the Pennsylvania and Baltimore & Ohio, which, in 19727, acquired the necessary property at the proposed site of the new station. The estimated cost of the station is $2,132,000, of which $2,062,000 will be contributed by the applicant and $70,000 by Akron. The new station will replace one built in 1891.

Baltimore & Ohio.—*Trackage Rights.*—This road has asked the Interstate Commerce Commission for authority to operate under a trackage rights agreement over approximately 11.4 miles of a line owned by the Cherry River Boom & Lumber Co. The B. & O.'s proposed operations would extend from its connection with the line at Richwood, W. Va., to Big Blizzard Run.

Central of New Jersey.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has modified its order of March 29, 1946, to approve additional compensation in the sum of $15,000 to be paid J. D. Carpenter, Jr.,

for services as counsel for the trustee of this road from February 20, 1946, to December 31, 1947, and to approve $20,000 a year, effective January 1, as the maximum limit of compensation to be paid to Mr. Carpenter as counsel for the trustee. The previous order limited Mr. Carpenter's compensation to $18,000 yearly.

Chicago Great Western.—*Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue and to offer for exchange to all holders of its 5 per cent preferred stock, of which 366,104 shares are outstanding, up to $7,322,080 of 4½ per cent income debentures and 73,221 shares of common stock upon the basis of $20 of debentures and one-fifth share of common for each share of preferred. The debentures, dated January 1, would mature January 1, 2049.

The applicant told the commission that dividends have not been paid on the preferred stock since March 29, 1946, adding that directors and officers of the road have been under "increasing pressure" from a large group of preferred stockholders for such payments. Accumulated dividends now amount to $7.50 per share, the maximum amount to which such dividends are cumulative. Payment of $915,260 per annum in dividends upon the preferred would be required.

The applicant said that its directors have concluded that, from a "long-range standpoint," the interests of the road, its security holders of all classes and the public interest, will be best served by omitting for the present and an indeterminate period in the future, the payment of any dividends on the preferred stock and to use a "substantial portion" of net earnings and other available funds toward maintaining its cash position, reducing its indebtedness and maintaining and improving its property.

The application said that if every share of preferred stock were exchanged, there would be $7,322,080 of debentures outstanding, on which the annual interest and sinking fund charges would approximate $347,800, a reduction of $567,460 from preferred dividend requirements. "It is not anticipated that all, or even half of the outstanding shares of preferred stock will be exchanged," the road said, adding that, no matter what the percentage may be, it will be able to meet the demands of those security holders who want immediate income (and thus accept the proposed offer) without paying out a large proportion of its earnings.

The applicant said that while no limit has been placed upon the number of shares of preferred stock which may be exchanged, the terms of the proposed exchange will be fixed and maintained so that no person will receive securities having a combined estimated market value equal to those turned in. It said that persons making an exchange will sacrifice both principal ($50 of preferred against $20 of debentures and $10 of common stock) and potential future income. These considerations, it added, will automatically limit the amount of preferred stock exchanged.

Chicago, Indianapolis & Louisville.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $1,800,000 of 2⅝ per cent equipment trust certificates, the proceeds of which will be applied toward the purchase of 550 freight cars, as described in *Railway Age* of February 21, page 73. The equipment is estimated to cost $2,400,000. The certificates will be dated April 15 and will mature in 15 annual installments of $120,000, starting April 15, 1949. The report also approves a selling price of 98.16 with a 2⅝ per cent interest rate, the bid of Salomon Brothers & Hutzler, and associates, on which basis the average annual cost will be approximately 2.91 per cent.

Chicago, Milwaukee, St. Paul & Pacific.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $2,640,000 of series BB equipment trust certificates, the proceeds of which will be applied toward the purchase of a 2,000-hp. "B" unit Diesel-electric passenger locomotive and 1,000 50-ton all-steel hopper cars, at an estimated total cost of $3,541,950. (See *Railway Age* of March 20, page 106.) The report also approves a selling price of 99.524 with a 2⅛ per cent interest rate, the bid of Harris, Hall & Co., and associates, on which basis the average annual cost will be approximately 2.22 per cent.

Des Moines & Central Iowa.—*Reorganization.*—Making a proposed report on the reorganization of this road under section 77 of the Bankruptcy Act, Examiners H. H. Kirby and R. R. Porterfield have recommended that the Interstate Commerce Commission reduce its capitalization from $3,572,000 (exclusive of short-term notes, all past due, of a total face amount of $378,223) to $1,142,800, and eliminate fixed-interest charges of $166,148 per annum, exclusive of interest at various rates accuring on the notes. The only fixed charge under the proposed new set-up would be rent of $10,200 for leased property. According to the proposed report, the new capitalization could be increased to the extent of $285,700 of new common stock if deemed necessary by the reorganization committee to acquire "satisfactory operating agreements" with the Des Moines. The latter and the debtor have been operated jointly for many years under an arrangement whereby some services are performed for the debtor at a proportion of their total cost and electric power is supplied to the debtor by the Des Moines.

The recommended capitalization and annual requirements, as proposed by the examiners, would be as follows:

Issue or Item	Princ. Amt.	Fixed Charges	Contingent Requirem't
Rent for leased property		$10,200	
First - mortgage, 50-yr., 4% income bonds	$ 714,250		$28,570
Sinking fund for bonds			3,571
Common stock (17,142 shares, $25 par value)	428,550		
Total	$1,142,800	$10,200	$32,141

According to the proposed report, the equities of the holders of the debtor's debenture bonds, the unsecured notes mentioned above and common stock are found to have no value, and no provision is made for their participation in the plan. Holders of the debtor's first mortgage, 7½ per cent bonds would receive 50 per cent of the principal amount of their claims in new first mortgage, 50-year, 4 per cent contingent-interest bonds and would also receive 30 per cent of the principal amount of their claims in new common stock of $25-per-share par value. The reorganization committee would have available new common stock equivalent to 20 per cent of the principal amount of the bondholders' claims, or $285,700 par value of stock, with which to negotiate agreements with the Des Moines similar to past expired agreements covering the services of supervisory employees, use of property and repairs to equipment. If satisfactory agreements cannot be secured, the examiners said, no portion of the $285,700 of new common stock would become outstanding. The report also noted that four bondholders, who purchased the debtor's $633,500 promissory note from the United States Treasury and $795,000 of the debtor's first mortgage bonds pledged as collateral security therefor, were the owners, at the time of the hearing in the proceeding, of $1,057,000 principal amount of the $1,428,500 of such bonds outstanding.

The recommended plan also sets up a method whereby the reorganization committee may deal at "arm's length" with the Des Moines for a continuation of joint supervision, use of office space repair of equipment. In this connection, the examiners noted that, should the reorganized company disassociate its operations from those of the Des Moines, the former will need a new staff of officers and general office employees, as well as new facilities for the repair of equipment; and that, should the reorganized company acquire Diesel-electric power and eliminate electric operation, it may be necessary for it to furnish "some form" of passenger service.

Denver & Rio Grande Western.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $4,530,000 of series M equipment trust certificates, the proceeds of which will be applied toward the purchase of 3 6,000-hp. Diesel-electric freight locomotives and 815 freight cars, including 15 tank cars, as described in *Railway Age* of March 6, page 70. The

certificates will be dated May 1 and will mature in 30 semi-annual installments of $151,000, starting November 1. The report also approves a selling price of 99.4099 with a 2½ per cent interest rate, the bid of Harriman Ripley & Co. and Lehman Brothers, on which basis the average annual cost will be approximately 2.59 per cent.

Missouri-Kansas-Texas. — *Subsidiaries' Directors.*— R. H. Friedrich, president of the Ed Friedrich Sales Corporation, San Antonio, Tex., has been elected a director of the San Antonio Belt & Terminal, a Katy subsidiary, to succeed the late Edwin Chamberlain. Also, six new directors have been added to the board of the Texas Central, another Katy subsidiary, thus increasing the membership of the board to 15. The new directors are: John H. Kultgen, president of the Bird-Kultgen Company; William L. Goble, Sr., vice-president and general manager of the Brazos Valley Cotton Oil Company; J. W. Frasche, plant manager for the General Tire & Rubber Co.; Joe W. Barnes, vice-president and general manager of the Higginbotham Hardware Company; William Curry, secretary and treasurer of the W. F. & J. F. Barnes Lumber Co.; and Wofford Cain, chairman of the board of the Southern Union Gas Company. Mr. Cain is from Dallas, Tex., and the other five new directors are from Waco. K. K. Smith, assistant to the president of the Kimbell Mining Company, Fort Worth, Tex., has been elected a director of the Missouri-Kansas-Texas of Texas.

Missouri Pacific.—*Reorganization.*—The Alleghany Corporation, an M.P. security holder, has filed an amended plan of reorganization for this road with the Interstate Commerce Commission. Alleghany's basic plan was outlined in *Railway Age* of March 27, page 75. Further hearings on a plan of reorganization for this road under section 77 of the Bankruptcy Act were concluded last month. The hearing had been ordered to receive further evidence pursuant to orders by the federal courts referring the approved plan back to the commission, at its recommendation. Alleghany's modified plan provides that the reorganization managers, if they found that the series A bonds would be likely to sell for less than their face value, could, with the approval of the court, issue instead 20-year 4 per cent collateral trust notes. The notes would be secured by a pledge of not more than 125 per cent of the series A bonds. The modified plan also reduces the terms of the proposed series A, B, C and D bonds.

New York, Ontario & Western.—*Annual Report.*—Operating revenues of this road last year were $8,292,068, compared with $7,321,323 in 1946. Operating expenses were $7,806,219, compared with $7,547,593. Fixed charges totaled $1,467,051, compared with $1,372,082. The net deficit amounted to $2,855,700, compared with a net deficit of $3,018,515. Current assets at the end of the year were $1,295,993, compared with $1,293,463. Current liabilities were $5,206,574, compared with $4,460,109. Long term debt was $37,278,407, compared with $36,155,350.

Pennsylvania.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $9,600,000 of series T equipment trust certificates, part of a proposed issue of $39,240,000 of series T certificates. Proceeds of the entire issue will be applied toward the purchase of the following equipment:

	Description and Builder	Estimated Unit Price
8	6,000-hp. Diesel-electric freight locomotives (Electro-Motive Division, General Motors Corp.)	$641,000
8	4,500--hp. Diesel-electric freight locomotives (E.-M. D.)	515,000
8	1,500-hp. Diesel-electric freight locomotive booster units (E.-M. D.)	160,000
3	6,000-hp. Diesel-electric freight locomotives (Baldwin Locomotive Works)	628,000
6	1,000-hp. Diesel-electric switching locomotives (Baldwin)	97,000
2	6,000-hp. Diesel-electric freight locomotives, with steam heating boilers (Fairbanks, Morse & Co.)	679,000
15	1,000-hp. Diesel-electric switching locomotives (Fairbanks, Morse & Co.)	97,000
6	4,000-hp. Diesel-electric freight locomotives (Fairbanks, Morse & Co.)	445,000
22	380-hp. Diesel-electric switching locomotives (General Electric Co.)	49,000
2	6,000-hp. Diesel-electric freight locomotives (American Locomotive Co.)	643,000
7	1,000-hp. Diesel-electric switching locomotives (American Locomotive Co.)	97,000
6	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Budd Co.)	130,200
1	10 single-bedroom, 6 double-bedroom all-steel sleeping car (Budd)	152,250
2	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Budd)	139,650
6	twin unit dining cars (Budd)	116,550
6	twin-unit kitchen dormitory cars (Budd)	130,200
6	single unit dining cars (Budd)	126,000
2	coach-bar-lounge cars (Budd)	121,800
50	21 single-bedroom cars (Budd)	134,400
3	all-steel passenger cars (American Car & Foundry Co.)	106,050
4	coach-bar-lounge cars (A.C.F.)	110,250
2	single-unit dining cars (A.C.F.)	131,250
2	dormitory-baggage cars (A.C.F.)	87,150
1	6 double-bedroom, buffet-lounge all-steel sleeping car (A.C.F.)	129,150
19	10 single-bedroom, 6 double-bedroom steel and aluminum sleeping cars (A.C.F.)	127,050
2	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Pullman-Standard Car Manufacturing Co.)	120,000
6	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Pullman-Standard)	121,300
2	21 single-bedroom all-steel sleeping cars (Pullman-Standard)	130,100
2	all-steel passenger cars (Pullman-Standard)	96,000
8	10 single-bedroom, 6 double-bedroom all steel sleeping cars (Pullman-Standard)	126,000
17	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Pullman-Standard)	118,650
16	10 single-bedroom, 6 double-bedroom all-steel sleeping cars (Pullman-Standard)	120,750
24	12 duplex rooms, 4 double-bedroom all-steel sleeping cars (Pullman-Standard)	134,400
11	6 double-bedroom buffet-lounge all-steel sleeping cars (Pullman-Standard)	121,800
8	1 drawing-room, 3 double-bedroom bar-lounge all-steel sleeping cars (Pullman-Standard)	128,100
2	2 master-room, 1 double-bedroom buffet-lounge-observation all-steel sleeping cars (Pullman-Standard)	142,800
7	drawing room, 1 compartment, 1 double-bedroom, buffet-lounge-observation all-steel sleeping cars (Pullman-Standard)	127,050
2	3 double-bedroom, secretary room, barber shop, buffet-lounge all-steel sleeping cars (Pullman-Standard)	119,700

According to the applicant, the sale of the $9,600,000 of certificates will provide funds to be applied toward the cost of acquiring equipment to be delivered within the near future. It said that it will seek authority to assume liabilty for the remainder of the $39,240,000 issue as and when funds are required to finance the acquisition of additional equipment.

The certificates will be dated May 15, will be sold on the basis of competitive bidding and will mature in 15 annual installments of $2,616,000, starting May 15, 1949.

Peoria & Pekin Union.—*Annual Report.*—Operating revenues of this road last year totaled $2,420,480, compared with $1,862,151 in 1946. Operating expenses amounted to $1,946,983, compared with $1,733,093. Fixed charges were $140,929, compared with $141,349. Net income was $165,347, compared with a net deficit of $72,570. Current assets at the end of the year were $1,507,146, compared with $1,213,220. Current liabilities were $744,133, compared with $636,527. Long term debt was unchanged at $2,500,000.

Seaboard Air Line.—*Annual Report.*—Operating revenues of this company in 1947 totaled $119,140,955. Operating expenses amounted to $96,767,098. Fixed charges were $2,025,168 and net income was $2,918,617. (The income accounts for 1947 and 1946 are not comparable in several important particulars, the first seven months of 1946 being operations by the receivers of the old company.)

(While the 1947 income account does not include any large adjustments which would unduly distort the results for that year, the account for 1946 does include several substantial items or adjustments which would have to be considered in comparing the figures for the two years).

Dividends Declared

Cleveland, Cincinnati, Chicago & St. Louis.—5% preferred, $1.25, quarterly, payable April 30 to holders of record April 16.

Louisville & Nashville.—88¢, quarterly, payable June 14 to holders of record May 3.

Northern of New Hampshire.—$1.50, quarterly, payable April 30 to holders of record April 15.

Piedmont & Northern.—75¢, payable April 20 to holders of record April 5.

Average Prices Stocks and Bonds

	Apr. 13	Last week	Last year
Average price of 20 representative railway stocks	50.69	50.66	44.36
Average price of 20 representative railway bonds	88.06	87.39	88.99

CONSTRUCTION

New Orleans Railroads.—Division 4 of the Interstate Commerce Commission has paved the way for the construction and operation of a new union passenger terminal in New Orleans, La., with its approval of the applications filed by the city and interested railroads for authority to proceed with the necessary construction work, abandonments and trackage-rights arrangements. The project, which contemplates the abandonment of five principal stations and the consolidation of two small suburban stations, was described in *Railway Age* of November 29, 1947, page 42. The terminal, to be constructed and owned by the city, will be used by all roads serving New Orleans.

Under consideration for many years, the project is designed to improve the city's highway and rail traffic situation by the elimination of grade crossings through separation of grades, track and yard removal or relocation, closing of streets and limitation of use of certain trackage.

Total cost of the project, which is expected to be completed within five years, is estimated at about $37,000,000, including the cost of street improvements.

The financing, exclusive of a portion of grade separation costs and the purchase of certain property for general purposes, is to be accomplished for the most part by the issue and sale by the city of $15,000,000 of City of New Orleans Union Passenger Terminal revenue bonds. Proceeds of the bonds are to be applied toward the construction of the terminal and appurtenant facilities at an estimated cost of $15,765,000, including the railroads' 15 per cent share of prospective outlays for grade separation structures, and a $600,000 advance to the New Orleans Terminal Company to enable it to double-track part of its line and install new signaling and other facilities. The commission's report noted that the total of these outlays is approximately $18,000,000, or $3,000,000 more than the par value of the proposed bonds. The report went on to explain that, under the terminal agreement, the railroads will be "liable to pay this deficiency as prepaid additional rental."

Authority to issue the bonds was deferred by the commission because the rates of interest, to be determined by competitive bidding, and other particulars have not as yet been decided. The bonds would mature serially in varying amounts from January 1, 1953, to January 1, 1989, with a last maturity on January 1, 1998.

The remainder of the $37,000,000 expenditure is to be borne by the city with "some assistance" from other government agencies.

The railroad signatories to the terminal agreement are granted the right to use the terminal during an initial term of 50 years from its completion date, with provision for extensions up to 50 years in addition. Under the agreement, the carriers have obligated themselves to pay as a normal rent for use of the terminal, on a user basis, (1) the cost of maintaining and operating the terminal; and (2) interest on and serial maturities of the proposed bonds.

The terminal is to be exempt from ad valorem taxes, and after January 1, 1998, the carriers, in addition to paying all costs of maintenance and operation, are to pay the city a net normal rental in an amount equal to what the ad valorem taxes would be on the terminal.

The commission, which imposed employee-protection conditions for a four-year period, observed that the total number of employees on the New Orleans lines that probably would be affected by the contemplated changes in operations has been estimated by a committee of transportation officers at 1,022, with an estimated 680 required to operate and maintain the new terminal. The estimates, it said, indicate a net displacement of about 350, of whom about 117 are crossing watchmen and bridge tenders.

Southern.—This road has authorized the following projects, the probable costs of which are shown in parentheses: Replacing steel viaduct with reinforced concrete pipe culvert and fill on new alignment near Taswell, Ind. ($231,700); constructing industrial tracks at Childersburg, Ala. ($80,000); and replacing a timber trestle with a steel bridge near Popes Ferry, Ga. ($80,000) and also near Rock Hill, S. C. ($48,200). With the exception of the Taswell project, all work will be done by company forces.

Union Pacific.—This road has awarded a number of contracts for construction jobs, which, together with contemplated projects for which no contracts have been let, will cost in excess of $7,000,000. Company forces will complete a major portion of each of the projects, which are as follows (cost chargeable to additions and betterments shown in parentheses):

(1) Construct double-track main-line change, 2.88 mi. long, to eliminate sharp curvature at Thayer Junction, Wyo., ($1,142,300). A grading contract for approximately $447,000 has been awarded to the Morrison-Knudsen Company.

(2) Extend passing tracks and respace and replace 110-mi. of semaphore signals with color-light signals, between Ogden, Utah, and McCammon, Idaho, ($1,275,000). A contract for grading amounting to $36,100 has been awarded to the Morrison-Knudsen Company.

(3) Line change in main track in the vicinities of Strong, Utah, Bloom, Black Rock and Farrier, Nev., to eliminate sharp curvature ($127,200). Morrison-Knudsen Company has been awarded a grading contract amounting to approximately $74,900.

The following jobs will be completed entirely by company forces: Install 250-mi. of automatic cab controlling circuits and replace semaphore signals with color-light signals between Laramie, Wyo., and Green River ($600,800); and install Diesel oil storage and servicing facilities at Omaha, Neb., Cheyenne, Wyo., Green River, Kansas City, Mo., Lynndyl, Utah, and Milford, Yermo, Cal., San Bernardino and Los Angeles ($231,500).

The road will install 59 mi. of centralized traffic control, construct a 4-mi. second main track and extend passing tracks, between Los Angeles and Riverside, at a cost of $2,449,400. Invitations for grading—estimated to cost $57,100—have been issued to contractors. The balance of the work will be completed by company forces.

A track, 21.5 mi. long, will be constructed to a phosphate deposit at Fort Hall, Idaho, at a cost of $1,090,600. Contracts totaling an estimated $460,000 will be awarded for grading and for labor on bridges, culverts and fencing, the remainder of the work being completed by company forces.

The U. P. will also construct 19,000 ft. of trackage and relocate an additional 13,000 ft. of track at Nampa, Idaho, at a cost of about $250,800. Company forces will perform all of the work except grading, for which a contract amounting to approximately $33,000 will be awarded.

Spokane, Portland & Seattle.—This road has awarded the following contracts for construction jobs, the estimated costs of which are shown in parentheses: To the A. Nieman Construction Company, Vancouver, Wash., for the erection of a 26-ft. by 85-ft. reinforced concrete oil-and-paint house and for the installation of steel tanks and pumps ($64,510); and to the Packard & Pump Co., Longview, Wash., for the replacement of a timber trestle with precast reinforced concrete slabs ($23,474); and for the replacement of an additional timber trestle with a 60-ft. plate girder ($38.515).

ORGANIZATIONS

The **Chain Store Traffic League** will hold its 9th annual meeting at the Hotel Roosevelt, New Orleans, La., April 29-May 1, inclusive.

An "Air Line" excursion on the New Haven railroad from New Haven to Willimantic has been arranged by the Connecticut chapter of the **National Railway Historical Society** on May 16.

William T. Faricy, president of the Association of American Railroads, will

(Continued on page 72)

CANADIAN PACIFIC RAILWAY COMPANY

Sixty-Seventh Annual Report of the Directors, year ended December 31, 1947

(Abridged)

To the Shareholders:

The volume of traffic on the railway in 1947 greatly exceeded expectations and established a peacetime record. Among the factors contributing to this were the condition of almost full employment in Canada, the backlog of need for construction materials and durable consumption goods, special efforts to move grain and flour to ocean ports for export, heavy imports in many categories from the United States, and record exports of wood pulp and newsprint paper to that country. Passenger traffic continued to decrease but was still much above the pre-war level.

The application of the Railways for a 30% increase in freight rates filed in October, 1946, was the subject of public hearings throughout Canada before the Board of Transport Commissioners, commencing in February and ending in December. A decision had not been rendered at the end of the year. The Interstate Commerce Commission of the United States meanwhile authorized two increases in freight rates, additional to that authorized in 1946, and the Board of Transport in each instance authorized the application of these increases to international, overhead and certain import and export traffic in Canada. Notwithstanding these increases the average revenue received for hauling one ton one mile in 1947 was 95/100 of a cent only, compared with 93/100 in 1946 and with an average exceeding one cent during the ten years 1920-1929.

Working expenses continued to increase. The general wage increase of ten cents an hour made effective June 1, 1946, was applied for the full year 1947 compared with the seven months of 1946. Applications were received from various groups of employees for higher rates of pay and in certain instances upward adjustment was made, but there was no general increase in wages during the year. The average cost of locomotive fuel in 1947 was $6.75 per ton, compared with $5.99 in 1946; creosoted ties cost $2.04, as against $1.96; and the price of rails was $63.80 per ton, an increase of $3.59. Wage rates averaged 45% more than prior to the war and costs of materials and supplies were far above pre-war levels.

Net earnings from railway operations were again markedly inadequate. A substantial improvement might have been expected from the upward revision of freight rates on the international traffic referred to, as well as from the larger traffic volume. Instead, the increase in gross earnings was almost wholly offset by rising costs; and the ratio of net to gross earnings remained practically the same as in 1946 when an all-time low was reached. It is startling to compare this ratio of but 7.2% with the average of 19.9% for the period 1920-1929, when traffic volume was much less. On the other hand, a betterment in net earnings of Consolidated Smelters resulted in larger dividends from that source which brought Other Income up to a new high record.

The total income available from all sources to meet your Company's financial requirements amounted to $47,681,116, of which the railway—the main undertaking—contributed only 48%.

Fixed charges, lower than in any year since 1928, amounted to $15,787,174. After providing for these and for the four per cent. dividend on Preference Stock, the earnings per share of Ordinary Stock amounted to $2.04, compared with $1.53 in 1946.

The accounts of your Company show the following results for the year ended December 31, 1947:

Income Account

Gross Earnings		$318,585,919
Working Expenses (including taxes)		295,693,730
Net Earnings		$ 22,892,189
Other Income		24,788,927
		$ 47,681,116
Fixed Charges		15,787,174
Net Income		$ 31,893,942
Dividends:		
Preference Stock		
2% paid August 1, 1947	$ 2,278,841	
2% payable February 2, 1948	2,278,841	
	$ 4,557,682	
Ordinary Stock		
2% paid November 1, 1947	6,700,000	
		11,257,682
Balance transferred to Profit and Loss Account		$ 20,636,260

(The final dividend of 3 per cent. On the Ordinary Stock which was declared subsequent to the end of the year and is payable March 31, 1948, amounting to $10,050,000, is not deducted in the accounts for the year 1947.)

Profit and Loss Account

Profit and Loss Balance December 31, 1946		$269,126,972
Final dividend of 3 per cent. on the Ordinary Stock, declared from the earnings of the year 1946, paid March 31, 1947		10,050,000
		$259,076,972
Balance of Income Account for the year ended December 31, 1947	$ 20,636,260	
Portion of steamship insurance recoveries representing compensation for increased cost of tonnage replacement	636,825	
Miscellaneous—Net Credit	304,583	
	$ 21,577,668	
Deduct:		
Adjustment to prevailing official rates for sterling in respect of capital expenditures for steamships in years 1943-1946	1,530,679	
		20,046,989
Profit and Loss Balance December 31, 1947, as per Balance Sheet		$279,123,961

Highlights

	1947	1946	1945
Gross Earnings	$318,585,919	$292,495,828	$316,109,358
Working Expenses	295,693,730	271,652,778	280,055,024
Net Earnings	22,892,189	20,843,050	36,054,334
Other Income	24,788,927	22,779,794	15,106,957
Interest and Rental Charges	$15,787,174	$18,488,113	$19,547,129
Preference Stock Dividends	4,557,682	4,557,682	5,031,500
Ordinary Stock Dividends	16,750,000	16,750,000	16,750,000
Balance for Modernization & Other Corporate Purposes	10,586,260	3,827,049	9,832,662
Ratio, Net to Gross Earnings	7.19%	7.13%	11.41%
Average Interest Rate	3.64%	3.66%	3.84%
Preference Dividend Rate	4%	4%	4%
Ordinary Dividend Rate	5%	5%	5%
Tons of Freight Carried	59,034,547	51,400,892	54,822,012
Number of Passengers Carried	14,636,353	15,583,990	17,740,684
Revenue per Ton Mile	0.95c	0.93c	0.83c
Revenue per Passenger Mile	2.40c	2.12c	1.97c
Total Pay Rolls, All Services	$193,960,029	$178,982,649	$172,203,023
Number of Employees	83,528	82,180	84,062
Average Annual Wage	$2,322	$2,178	$2,049

Railway Operations

Gross Earnings in 1947 increased $26,090,091, or 8.9%, over those of 1946, and were but $285,115 below those of 1944, the year of highest earnings.

Freight Earnings amounted to $250,893,574, an increase of $32,342,966, or 14.8%, over 1946. The total was greater than in any previous year and $17,775,101 in excess of 1944, the next highest year. Increases in rates on international, overhead and certain import and export traffic produced more than $10,000,000 of the year's freight revenue.

Greater earnings were reported from general manufactures, grain and grain products, petroleum, lumber, paper and merchandise. No serious declines occured in the movement of important commodities but small decreases were recorded in coal and coke, livestock and meat products. It was impossible at all times to meet fully the demand for freight cars but the situation was eased in the latter part of the year with the delivery of substantial number of new cars.

[Advertisement]

The volume of business, measured in ton miles, was 11.6% greater than in 1946, but 4.3% and 3.9% respectively less than in 1944 and 1945. Tons handled, at 59,034,547, established a new record.

PASSENGER EARNINGS totalled $40,322,874, which were $5,057,771, or 11.1%, less than in 1946, and $16,531,423 below the wartime peak of 1945. There was a decline of $6,664,000 from military traffic which was heavy in the early part of 1946, and some increase in revenue arising from trans-Atlantic passengers, traffic from the United States, as well as domestic travel.

The number of passengers carried one mile totalled 1,665,585,000, a decrease of 21.7% from 1946. This arose from a decrease in passengers carried of 6.1% and a reduction in the average journey from 136.4 miles to 113.8 miles. Coach traffic declined more than first class traffic and while earnings from sleeping, parlor and dining car services were less, available space continued to be well taken up. The fare per passenger mile averaged 2.40 cents as against 2.12 cents in 1946, due in part to certain fares over routes competitive with United States lines having been increased concurrently with increases authorized by the Interstate Commerce Commission.

WORKING EXPENSES increased $24,040,952, or 8.8%. Wages and salaries increased $10,916,533, of which approximately $6,500,000 was due to bearing the full year's cost of the wage increase of 10 cents per hour granted June 1, 1946. The balance arose from the greater number of hours worked with certain wage adjustments and changes in working conditions granted various groups of employees. Expenses for material and supplies and other items increased $13,828,748, while tax accurals were $704,329 less.

The ratio of working expenses to gross earnings was 92.81%, a reduction of a bare .06 from last year's ratio, which was the highest on record.

MAINTENANCE EXPENSES totalled $117,061,922 for the year, of which $54,776,657 was for maintenance of way and structures and $62,285,265 for maintenance of equipment. This was an increase of $7,370,322 over the expenses of 1946. In total they represented 36.7% of gross earnings compared with 37.5% in 1946.

Track maintenance included the placing in track of 2,382,860 treated and 731,060 untreated ties, the laying of 382 single track miles of new rail and application of 23.2 miles of rock ballast and 214.6 miles of other types of ballast. The Sperry detector car, which is used in the examination of rails for hidden defects, tested 8,090 miles of track.

The programme for renewal of rails, fastenings and ballast was below a level adequate for a year of heavy traffic volume owing to short supply of both material and labor, but some progress was made in overtaking deferred maintenance of ties. To provide for renewals deferred during the year, less what was overtaken on ties, a net amount of $2,400,000 was charged to maintenance and carried to Maintenance Reserves.

Rolling stock maintenance included complete overhauls of 767 locomotives, 28,379 freight train cars and 1,294 passenger train cars. At the end of the year 98.2% of freight cars and 93.5% of locomotives were in serviceable condition. Owing to the situation as to material and labour, the rolling stock maintenance that was done, while adequate for the traffic volume, did not effect any reduction in the deferred work accumulated during the war years.

TRANSPORTATION EXPENSES amounted to $133,952,979, an increase of $16,055,016, or 13.6%, over 1946. The heavier traffic, together with higher wage rates, increased prices of fuel and other supplies, and wide-spread severe weather conditions in the early part of the year accounted for the greater expense.

Freight train operating performance showed improvement, reflecting in part the intensive efforts to obtain maximum utilization of the limited supply of equipment. Miles made per car on line averaged 16,973 compared with 16,177 the previous year, and the proportion of empty to total car miles was the lowest in many years. The average mileage per locomotive was 44,591, compared with 42,316 in 1946. Uncontrollable costs so predominated, however, that transportation expenses took 42.1% of gross earnings, a proportion never before reached, compared with 40.3% in the previous year.

The following statistical averages are indicative of the general level of efficiency in operations:

	1947	1946
Freight Train Load—gross tons	1,723	1,688
Freight Train Speed—miles per hour	15.9	16.1
Gross Ton Miles per Freight Train Hour	27,456	27,187
Freight Train Fuel Consumption—pounds per 1,000 gross ton miles	115	116
Freight Car Load—tons	31.2	30.8

RAILWAY TAX ACCRUALS amounted to $16,172,935, of which $12,000,000 was provision for Dominion Income and Provincial Corporation taxes, a reduction of $1,000,000 from the 1946 provision.

NET EARNINGS from railway operations were $22,892,189, an increase of $2,049,139. Out of each dollar of gross earnings, only seven cents of net was realized. In 1944 when gross earnings were roughly the same as in 1947, net earnings amounted to $43,159,664, or nearly double the 1947 figure. In this comparison the 1947 results are favoured by the increase in earnings derived from the rate increases on international traffic to which previous reference has been made.

Other Income

Other Income, at $24,788,927, was the highest in your Company's history. It was $2,009,133 more than in the previous record year of 1946.

The net earnings from ocean and coastal steamship operations decreased $401,917. Ocean steamship earnings were greater, due principally to the addition of the sixth Beaver ship to your Company's North Atlantic fleet and the return to passenger service in July of the Empress of Canada. The decline in net earnings of coastal steamships, chiefly due to increased costs of operation, more than offset the improvement in ocean steamship earnings. Higher freight and passenger charges were put into effect on the British Columbia service on the removal of price control but were not effective early enough to affect greatly the year's results.

Net earnings of your hotels were better than in any previous year; they exceeded, by $545,870, those of 1946 which had been the highest up to that time. Labour and material costs have been advancing rapidly over the past few years and in order to catch up with these costs it became necessary in the early summer to increase charges for meals and rooms in all your hotels. This, together with the larger volume of business enjoyed by your resort hotels, was responsible for the more favourable results.

The revenues from communication services were augmented by an increase of 20% in rates on telegraph traffic to and from the United States which was authorized by the Board of Transport Commissioners for Canada on June 6, 1947, following a general increase allowed by the Interstate Commerce Commission. Domestic rates remained unchanged throughout the year. As a result of rising costs, net earnings were $302,392 less.

Dividend income increased by $5,984,263. Dividends from The Consolidated Mining & Smelting Company of Canada, Limited at $8.00 per share amounted to $13,460,000 compared with $4.25 per share and $7,150,625 in 1946. The sustained heavy export demand and the marked improvement in world market prices for base metals enabled larger returns to be realized than were earned during the past several years.

Net income from interest, exchange, separately operated properties and miscellaneous sources decreased $3,436,475. Interest from the Steamship Replacement Fund decreased $298,207, owing to withdrawals from the Fund for expenditures on ships. Exchange account decreased $1,514,259. There was a decrease of $1,995,455 as a result of stating sterling expenditures for fixed charges at the official rate, but this was offset in part by the benefit for a full year of

[Advertisement]

the revaluation, effective July 6, 1946, of the Canadian dollar in relation to the currencies of the United Kingdom and the United States. The earnings of your Air Lines were $956,637 less and there was an increase of $337,162 in the deficit of the Northern Alberta Railways, half of which is borne by your Company.

Fixed Charges

Fixed charges amounted to $15,787,174, a decrease of $2,700,939. Of this, $705,484 was brought about principally by a reduction in funded debt outstanding and in leased line rentals. The balance is the result of stating interest and rents payable in sterling at the official rate instead of at par of exchange.

Net Income and Dividends

Net income amounted to $31,893,942, an increase of $6,759,211 over 1946. Dividends declared from the year's net income aggregated $21,307,682, of which $4,557,682 was for two half-yearly dividends on the Preference Stock of 2 per cent. each and $16,750,000 for dividends on the Ordinary Stock of 2 per cent. paid November 1, 1947, and 3 per cent. payable March 31, 1948. The source of income for the payment of dividends on the Ordinary Stock was indicated clearly in special announcements made by your Directors. The last such statement, issued February 9, 1948, was as follows:

> "The Directors consider it desirable to point out that this dividend of three per cent. making a total dividend payment of five per cent. in respect of operations for the year 1947 is made possible only by income from sources other than railway operations. Continued increases in gross earnings from freight traffic had been largely offset by decreases in passenger traffic and by increases in wages and the cost of materials and supplies."

Balance Sheet

Total assets at the end of the year amounted to $1,648,453,823, an increase of $26,008,155 during the year. There was a net increase of $32,033,830 in Property Investment, details of which are shown in a supporting schedule to the Balance Sheet. The largest item of expenditure was $26,011,981 for Rolling Stock, of which $19,765,867 was for new freight cars.

Finance

The amount of serial equipment obligations paid during the year was $8,264,000, reducing the Funded Debt by that amount and reducing the amount of Consolidated Debenture Stock pledged as Collateral by $268,000.

As of January 2, 1948, The Royal Trust Company, as Trustee, entered into an agreement under which $20,000,000 principal amount of Equipment Trust Certificates was issued, guaranteed as to principal and interest by your Company. This issue, designated as Series "J" maturing in equal annual instalments from January 2, 1949, to January 2, 1958, inclusive, is payable in Canadian currency, and bears interest at 2% per annum payable semi-annually commencing July 2, 1948. Under this arrangement, equipment constructed or to be constructed at an estimated cost of $25,027,410 in Canadian funds is leased to your Company at a rental equal to the instalments of principal of and interest on the Equipment Trust Certificates, such rental being payable on June 30 and December 30 in each year from 1948 to 1957 inclusive.

Wage Negotiations

At the beginning of the year notice was served by various groups of employees requesting extended annual vacation allowances. Subsequently a Board of Conciliation reported substantially in favour of the extensions asked for and a settlement was then negotiated, to be effective in 1948.

During the year certain groups of employees pressed requests for changes in working conditions in their agreements all of which involved increased expense to your Company. The proposals of the maintenance of equipment employees and the railway telegraphers were disposed of through negotiation. In other cases Boards of Conciliation were established as a result of which settlements were reached after further negotiations. Some cases are still outstanding, notably those concerning maintenance of way employees and conductors and trainmen. The effect of settlements negotiated during 1947 will be to increase the payroll expenses by approximately $2,250,000 per annum.

In November representatives of practically all organized employees served notice asking for a general wage increase of thirty-five cents per hour or its equivalent. It was impossible to entertain these requests, and they will be the subject of investigation by Boards of Conciliation early in 1948. A general wage increase of thirty-five cents per hour for all employees of your Company would mean an increased payroll expense of nearly $65,000,000. Your Company, while fully aware of the sharp rise that has taken place in the cost of living during the year, is firmly of the view that the demands made are not justified under existing circumstances.

To relieve the existing labour shortage, your Company made application to the proper authorities to recruit in Europe and bring to Canada for employment in track and other maintenance work a total of 1,720 men. Your Company obligated itself to provide employment for such rates and under conditions of employment, including accommodation, not less favourable to the employee than those prevailing in the locality for similar classifications of employment.

Canadian Pacific Air Lines, Limited

The realignment of services following the survey of Canada's air transport requirements conducted by the Air Transport Board, mentioned in the last Annual Report, resulted in the relinquishment during the early part of 1947 of almost all the non-schedule or charter licences held by your Air Lines. On the other hand, certain new routes were assigned, including the scheduled services between Vancouver and Prince Rupert; Vancouver and Calgary via the Okanagan Valley; Winnipeg and Flin Flon via The Pas; and Seven Islands and Knob Lake. In order to meet the requirements of the new services, nine twin-engined aircraft were acquired and 26 of the smaller and older planes were disposed of.

The loss of earnings from the charter operations previously conducted and the cost of organizing and developing the new routes, combined with the increased costs of materials and labour, resulted in a net loss, after depreciation, of $584,266 as compared with a profit of $372,371 in the previous year.

Minneapolis, St. Paul & Sault Ste. Marie Railroad Company

A dividend on the capital stock of this Company was declared on February 19, 1947, at the rate of $1.00 per share, amounting to $791,104, of which your Company received $359,829. Gross earnings of the Soo Line for 1947 amounted to $32,487,992, an increase of $4,517,844 over 1946. Freight earnings were $4,617,368 higher, principally as a result of increases in rates authorized by the Interstate Commerce Commission. Working expenses for the year amounted to $30,454,813, an increase of $3,502,733.

Net income for the year, after provision for fixed and contingent charges, amounted to $1,183,000 compared with $154,188 in the previous year.

The voting trust agreement which had been entered into pursuant to the plan of reorganization of the Soo Line was terminated at December 31, 1947, by unanimous action of the Voting Trustees. The effect of this action was to transfer to the shareholders the right to vote the capital stock of which your Company now owns 50.03%.

The Wisconsin Central continues to be operated by the Soo Line as agent for the Trustees of the Wisconsin Central. The plan of reorganization previously proposed by an Examiner of the Interstate Commerce Commission has now been approved with certain modifications by the Commission. Your Company as well as other interested parties have petitioned for an order for further modification of certain features of the plan. On February 2, 1948, the Commission

[Advertisement]

issued an order reopening proceedings for further hearing.

The Duluth, South Shore & Atlantic Railway Company

The plan of reorganization proposed by the Trustees of the South Shore as a result of the negotiations between your Company and representatives of the holders of a substantial portion of the First Mortgage Bonds, which was under consideration by the Interstate Commerce Commission at the end of 1946, was approved by the Commission on June 19, 1947, with certain modifications. In order to expedite the reorganization proceedings, all parties in interest have agreed not to file any objections to the modified plan, which has now been certified to the District Court.

Gross earnings of the South Shore for the year were $5,323,656, an increase of $1,233,257, of which approximately $731,000 was due to higher freight rates. Net earnings amounted to $537,460, an increase of $526,685 over the previous year.

Rates and Services

Previous reference has been made in this Report to the application filed with the Board of Transport Commissioners for Canada for authority to increase freight rates by 30%. There were certain exceptions to the request for a general increase, namely the statutory grain rates which may only be increased by authority of Parliament and rates on coal and coke for which definite amounts per ton were requested. It was estimated that the overall increase in freight revenues involved in the application amounted to 22.6%.

Following the release from price control of freight and express charges, under order of the Wartime Prices and Trade Board effective September 15, 1947, the railways of Canada took steps to increase by 30% competitive freight rates and competitive express rates.

The railway companies felt justified in proposing these increases in rates which they had voluntarily established to meet competition, because their competitors' costs had also substantially increased and the abnormally low rates could therefore no longer be justified. Such rates as increased would in no instances have exceeded either the normal rates previously established without regard to competition or those fixed as maximum rates by the Board of Transport.

The Board ruled, however, that all rates, including these competitive rates, were under consideration in the general application and that it was desirable that they should continue to be considered together until final disposition. The railways were therefore ordered to suspend these increases.

NEW ROLLING STOCK PLACED IN SERVICE DURING YEAR	
Locomotives	
Steam	6
Diesel	13
Freight Train Cars	
Box	2,672
Automobile	500
Hopper	251
Refrigerator	55
Caboose	50
Passenger Train Cars	
Baggage	10
Coach	7

Diesel switching locomotives are proving their effectiveness in yard operations at major terminals across the system. At the end of the year 55 diesel switchers were in service, of which 13 were received during 1947.

Steamship Replacement

The Beavercove, fourth of the Atlantic Beavers designed and built for your Company, was delivered during 1947 and entered regular freight service between Canada and the British Isles in September. The Beaverburn and Beaverford, ultimately intended for the Pacific, remained in the Atlantic service throughout the year. The six Beaver ships combined carried 445,960 tons of cargo, principally vital foodstuffs, to the United Kingdom, and carried 91,101 tons to Canada. In addition, 1,295 passengers were accommodated on the Beaverburn and Beaverford.

In July the Empress of Canada, the former Duchess of Richmond, which had been completely overhauled and reconditioned, returned to the Atlantic service and up to the end of the year carried 10,241 passengers and 36,484 tons of cargo.

The Duchess of Bedford was released from troop transport service and is being refitted before returning to the Atlantic service. She is to be renamed the Empress of France. Serious delays have been encountered owing to scarcity of materials and the lack of sufficient numbers of skilled workmen in the shipyards.

In September your Company purchased the former German motor vessel Huascaran and renamed her Beaverbrae. This vessel was reconditioned and is now in service in the transport of displaced persons and immigrants from Europe. The Beaverbrae has a carrying capacity of approximately 800 passengers and 6,000 tons of cargo.

The Princess Kathleen, fully reconditioned and with modernized fittings, re-entered your Company's service on the triangle run between Vancouver, Victoria and Seattle. The two new passenger steamships being constructed for the British Columbia Coast Service are expected to be placed in service before the end of 1948.

Discussions were continued with shipbuilders in the United Kingdom looking toward the placing of contracts for the construction of two large passenger vessels, one for Pacific service and one for the Atlantic, plans and specifications for which were completed in 1946.

Capital Appropriations

In anticipation of your confirmation, capital appropriations in addition to those approved at the last Annual Meeting were authorized by your Directors during the year in the amount of $36,390,854. Your approval will be requested also for capital appropriations of $43,280,017 for the year 1948. The principal items are as follows:

Additions and betterments to stations, freight sheds, coaling and watering facilities and enginehouses	$ 3,615,297
Replacement and enlargement of structures in permanent form	829,327
Tie plates, rail anchors and miscellaneous roadway betterments	1,292,193
Replacement of rail in main line and branch line tracks with heavier section	1,110,299
Installation of automatic signals	372,583
Additional terminal and side track accommodation	759,454
Additions and betterments to shop machinery	494,228
New rolling stock	31,524,072
Additions and betterments to rolling stock	1,489,400
Ocean steamships	90,000
Additions and betterments to communication facilities	1,638,238

Directorate

Early in the present year the health of Mr. W. M. Neal, C.B.E., Chairman and President of your Company, showed signs of deterioration and notwithstanding a prolonged rest he failed to improve. In consequence of advice from his physicians he asked that he be relieved of his responsibilities at the earliest possible date, and your Directors reluctantly felt impelled to accept his resignation.

Mr. Neal's record is one of distinctive achievement in the field of railway operation. Throughout the many years of his service, in whatever office he held, his zeal, ability and energy were conspicuous; and, beside serving your Company with great efficiency, he rendered the Country meritorious service in the War of 1914-18 as General Secretary of the Canadian Railway War Board; and again in the recent World War as Canadian representative on the Transportation Equipment Committee of the Combined Production and Resources Board of Canada, the United Kingdom and the United States.

At the meeting of the Board held on the date of this Report Mr. George A. Walker, K.C., Vice-President of your Company, a Director and member of the Executive Committee, was elected Chairman of the Company.

Mr. W. A. Mather, Vice-President of the Prairie Region of your Company's System, was elected a Director, a member of the Executive Committee and President of the Company.

The undermentioned Directors will retire from office at the approaching annual meeting. They are eligible for re-election.

MR. D. C. COLEMAN, C.M.G. MR. JOHN W. HOBBS
HON. CHARLES A. DUNNING, P.C. MR. R. S. MCLAUGHLIN
SIR EDWARD PEACOCK, G.C.V.O.

[Advertisement]

Canadian Pacific Railway Company
General Balance Sheet, December 31, 1947

ASSETS

PROPERTY INVESTMENT:		
Railway, Rolling Stock and Inland Steamships	$ 880,747,256	
Improvements on Leased Property	107,956,776	
Stocks and Bonds—Leased Railway Companies	134,169,779	
Ocean and Coastal Steamships	54,545,167	
Hotel, Communication and Miscellaneous Properties	97,644,309	
		$ 1,275,063,287
OTHER INVESTMENTS:		
Stocks and Bonds— Controlled Companies	$ 69,939,167	
Miscellaneous Investments	47,039,970	
Advances to Controlled and Other Companies	7,236,035	
Mortgages Collectible and Advances to Settlers	1,293,295	
Deferred Payments on Lands and Townsites	10,782,049	
Unsold Land and Other Properties	13,423,071	
Maintenance Fund	27,600,000	
Insurance Fund	12,460,156	
Steamship Replacement Fund	34,645,823	
		224,419,575
CURRENT ASSETS:		
Material and Supplies	$ 36,712,903	
Agents' & Conductors' Balances	14,741,396	
Misc. Accounts Receivable	17,968,071	
Dominion of Canada Securities	31,667,000	
Cash	42,644,686	
		143,734,056
UNADJUSTED DEBITS:		
Insurance Prepaid	$ 238,296	
Unamortized Disc. on Bonds	3,781,185	
Other Unadjusted Debits	1,217,424	
		5,236,905
		$ 1,648,453,823

LIABILITIES

CAPITAL STOCK:		
Ordinary Stock	$ 335,000,000	
Preference Stock—4% Non-cumulative	137,256,921	
		$ 472,256,921
PERPETUAL 4% CONSOLIDATED DEBENTURE STOCK	$ 325,956,729	
Less: Pledged as collateral to bonds & equipment obligations	30,418,500	
		295,438,229
FUNDED DEBT		75,301,000
CURRENT LIABILITIES:		
Pay Rolls	$ 7,053,336	
Audited Vouchers	9,284,072	
Net Traffic Balances	4,491,862	
Miscellaneous Acc'ts Payable	9,452,084	
Accrued Fixed Charges	938,186	
Unmatured Dividend Declared.	2,278,841	
Other Current Liabilities	13,339,604	
		46,837,985
DEFERRED LIABILITIES:		
Dominion Government Unemployment Relief	$ 1,447,223	
Miscellaneous	2,961,578	
		4,408,801
RESERVES AND UNADJUSTED CREDITS:		
Maintenance Reserves	$ 27,600,000	
Depreciation Reserves	324,478,772	
Investment Reserves	3,702,115	
Insurance Reserve	12,460,156	
Contingent Reserves	5,188,998	
Unadjusted Credits	6,475,843	
		379,905,884
PREMIUM ON CAPITAL AND DEBENTURE STOCK		34,458,562
LAND SURPLUS		60,722,480
PROFIT AND LOSS BALANCE		279,123,961
		$1,648,453,823

ERIC A. LESLIE,
Vice-President and Comptroller.

TO THE SHAREHOLDERS,
CANADIAN PACIFIC RAILWAY COMPANY:

We have examined the above General Balance Sheet of the Canadian Pacific Railway Company as at December 31, 1947, the Income and Profit and Loss Accounts for the year ending on that date and other related schedules, and have compared them with the books and records of the Company.

The records of the securities owned by the Company at December 31, 1947, were verified by an examination of those securities which were in the custody of its Treasurer and by certificates received from such depositaries as were holding securities in safe custody for the Company.

In our opinion the General Balance Sheet, Income and Profit and Loss Accounts and the other related schedules are properly drawn up so as to present fairly the financial position of the Company at December 31, 1947, and the results of its operations for the year then ended, according to the best of our information and the explanations given to us and as shown by the books of the Company.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

Montreal, March 5, 1948.

Officers and Employes

Throughout the years an enviable record of devotion to duty has been built up by the officers and employees of your Company. By their efforts the high standards of Canadian Pacific service have been not only maintained but advanced. Your Directors desire to express their appreciation of these achievements and their gratitude for the loyalty to the best interests of your Company continuously expressed through the competent performance of duty.

For the Directors,
W. A. MATHER, *President.*

MONTREAL, MARCH 8, 1948.

[Advertisement]

(Continued from page 67)

address the **Western Railway Club**, at its meeting on April 19, in the Sherman Hotel, Chicago.

The **Miami Valley Traffic Club** will hold its spring educational luncheon at 23 noon on April 26, at the Van Cleve Hotel in Dayton, Ohio.

The **Eastern Association of Car Service Officers** will hold its annual spring meeting at the Pennsylvania Hotel, New York, on April 29.

At a dinner meeting on April 30, at the Queen City Club in Cincinnati, Ohio, the **Newcomen Society** committee of that city will honor Gustav Metzman, president of the New York Central. Mr. Metzman will deliver an address in which he will discuss the lives and accomplishments of Ohio men who made possible the earliest railroads.

CAR SERVICE

I.C.C. Revised Service Order No. 772-A vacated as of April 15 Revised Service Order No. 772, which required the Green Bay & Western and the Kewaunee, Green Bay & Western to maintain normal freight-car interchange arrangements with the Ahnapee & Western.

I.C.C. Service Order No. 793, which provides for the substitution of refrigerator cars for box cars ordered to handle fruit and vegetable containers and box shooks from certain Arkansas and Texas points to the Rio Grande Valley, has been modified by Amendment No. 2, which sets back the expiration date from April 20 until May 31.

I.C.C. Service Order No. 780, which requires 25 per cent of the carload minimum to be loaded initially in cars of lumber forwarded from Washington and Oregon points to be stopped to complete loading, has been modified by Amendment No. 1, which set back the expiration date from April 15 until October 15.

General Permit ODT 18A, Revised-39, has been issued by the Office of Defense Transportation to authorize the shipment of new fresh harvested

Irish potatoes in carload lots of not less than 36,000 lb. The permit became effective April 7 and will expire May 31.

I.C.C. Service Order No. 813, effective from April 14 until September 9 unless otherwise modified, places an embargo against the Goldberg Building Material & Supply Co. of Troy, N. Y., which is served by the Boston & Maine, Delaware & Hudson, and New York Central. The commission stated that Goldberg had been holding loaded freight cars "an unreasonable time before unloading them," and that "the railroads have placed various embargoes against said company, but they have disregarded their own embargoes."

RAILWAY OFFICERS

EXECUTIVE

Lewis Edward Gordon, whose appointment as assistant to vice-president—operation of the New York, Chicago & St. Louis at Cleveland, Ohio, was reported in *Railway Age* of March 20, was born on October 24, 1901, at Richmond, Va. Mr. Gordon entered railroad service on August 1, 1917, as office boy in the agricultural and industrial department of the Chesapeake & Ohio at Richmond, Va. On June 1, 1918, he became clerk to assistant to federal manager at Richmond and a year later he went to the office of vice-president in a similar capacity. On July 11, 1921, he became secretary, in which capacity he subsequently served the assistant to vice-president, the general manager and the vice-president and general manager, all at Richmond. On March 16, 1933, Mr. Gordon was appointed secretary to vice-president of the C. & O. and the New York, Chicago & St. Louis at Cleveland, Ohio, and one month later he became assistant chief clerk to vice-president of those roads at Cleveland, subsequently serving the C. & O., the N.Y.C. & St.L. and the Pere Marquette as assistant chief clerk to executive vice-president and to the president. On April 14, 1943, Mr. Gordon became chief clerk, in which capacity he served the vice-president, the assistant to president and the vice-president, of the New York, Chicago & St. Louis at Cleveland.

N. R. Crump, vice-president of the Eastern region of the Canadian Pacific at Toronto, Ont., has been appointed vice-president at Montreal, Que., with jurisdiction over all lines. **William Manson,** vice-president at Montreal, has been appointed vice-president of the Prairie region at Winnipeg, Man., succeeding **H. A. Mather,** who was elected president of the road on March 8. **D. S. Thomson,** general manager of the Eastern region, succeeds Mr. Crump as vice-president of that region at Toronto. Mr. Crump born on July 30, 1904, at Revelstoke, B. C., received his B. S. and M. E. degrees from Purdue University. He entered railroad service in 1920 as a machinist's apprentice for the Canadian Pacific at Field, B. C., transferring to the western shops at Winnipeg, Man., in 1922. He then attended Purdue from 1925 to 1929, after which he returned to his former post. In 1930 he became night foreman at Sutherland, Sask.,

N. R. Crump

then shop foreman at Lethbridge, Alta., and Calgary, successively. He then served consecutively as locomotive foreman at Wilkie, Sask., night foreman at Moose Jaw, Sask., and division master mechanic at Moose Jaw, and in 1936 was transferred to Regina, Sask. Mr. Crump was appointed chief mechanical draftsman, Western lines, at Winnipeg in 1939, assistant superintendent of motive power for Western Canada in 1940, assistant to the vice-president in 1942, and general superintendent, Ontario district, in 1943. He was advanced to as-

D. S. Thomson

sistant general manager, Eastern lines, Toronto, Ont., in 1944, and in January, 1946, he became general manager of the Eastern lines. Mr. Crump was promoted to vice-president and general manager of the eastern lines at Toronto in January, 1947, becoming vice-president of the Eastern region in August, 1947.

Mr. Thomson was born at Cornwall, Ont., and entered railroad service in 1910 as messenger at the Angus shops of the Canadian Pacific at Montreal. He was employed in the Montreal offices of that road until 1925, when he became statistician. From 1926 to 1935 Mr. Thomson was chief clerk to general manager at Montreal, becoming assistant superintendent at Smith's Falls, Ont., in the latter year. In 1936 he was transferred to Sudbury, Ont., and in 1937, to the Bruce division. From December, 1937, to May, 1940, Mr. Thomson served as superintendent of the Trenton division, transferring to the Brownville division in the latter year. He was promoted to general superintendent of the Ontario district at Toronto in October, 1944, and became assistant general manager of the Eastern lines at Toronto in January, 1947. Mr. Thomson was promoted to general manager of the Eastern region at Toronto in August, 1947.

Ernest G. Young, attorney for the Chicago & Illinois Midland, at Springfield, Ill., has been appointed vice-president of the road, with headquarters as before at Springfield, succeeding **George W. Imgrund,** who has retired.

Floyd H. Millard, whose promotion to vice-president and controller of the St. Louis Southwestern, with headquarters at St. Louis, Mo., was reported in *Railway Age* of March 20, was born

Floyd H. Millard

on July 17, 1888, at Central City, Neb. He received his higher education at the University of Colorado and the University of Illinois, and began his railroad career with the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific), as an engineer at Chicago in 1912. Mr. Millard was an instructor in mechanics at the University of Illinois for a period during 1912 and 1913, and in July of the latter year he joined the Railroad Commission of Wisconsin as an investigator. He became associated with the statistical bureau, Western Lines, at Chicago, in 1915, and served as assistant to director of traffic of the U. S.

Railroad Administration in 1919 and 1920. He was appointed assistant to president of the Cotton Belt in 1920, becoming also controller in 1928. He was serving in these capacities at the time of his recent advancement.

B. S. Sines, executive representative of the Southern Pacific, with headquarters at San Francisco, Cal., has been appointed vice-president of the S. P. of Mexico, with heaquarters at Guadalajara, Mex. A photograph of Mr. Sines and a sketch of his career appeared in *Railway Age* of March 6, in connection with his appointment as executive representative.

FINANCIAL, LEGAL and ACCOUNTING

Charles Cook Howell, whose appointment as senior general solicitor of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was reported in *Railway Age* of March 20, was born in Charlton county, Ga. Mr. Howell received his B.A. degree from Elon College in North Carolina and his LL.B. from the University of Virginia. He

Charles Cook Howell

has practiced law in Jacksonville, Fla., since 1916 and from 1925 to 1929 served as city bond attorney. The new head of the A.C.L.'s law department has been for several years the senior partner in the law firm of Howell, McCarthy, Lane & Howell, Jacksonville. This firm is also division counsel for the A.C.L.

Harry T. Newcomb has been appointed general attorney of the Chesapeake & Ohio at Cleveland, Ohio.

G. L. Reeves, acting general solicitor of the Atlantic Coast Line at Tampa, Fla., has been appointed special counsel, with the same headquarters.

B. D. Martin, whose appointment as auditor of disbursements of the Chesapeake & Ohio at Huntington, W. Va., was reported in *Railway Age* of March 20, was born and educated in Huntington. Mr. Martin, who is 50 years of age, has had approximately 31 years' experience in railroading, much of it in payroll and disbursements. His experience includes managerial, supervisory, clerical and secretarial positions

B. D. Martin

at Huntington, Ashland, Ky.; and Richmond, Va. Mr. Martin was director of personnel statistics at Huntington before his promotion to auditor of disbursements.

OPERATING

Marvin G. Monaghan, whose appointment as assistant general manager of the Fort Worth & Denver City and the Wichita Valley (parts of the Burlington Lines), at Amarillo, Tex., was reported in *Railway Age* of March 6, was born on March 20, 1895, at Thornton, Tex. Mr. Monaghan attended West Texas State College at Canyon, Tex., and began his railroad career with

Marvin G. Monaghan

the F.W.&D.C. in 1918, as a file clerk in the superintendent's office at Childress, Tex. He subsequently held various clerical positions, including that of chief clerk to the general superintendent of of the F. W. & D. C. and the W. V. at Wichita Falls, Tex. He served temporarily as trainmaster at Wichita Falls in 1935, and as assistant superintendent at Amarillo in that year and in 1936. In 1942 he was appointed trainmaster on the Amarillo division, and on July 1, 1947, he was advanced to assistant superintendent at Amarillo, which post he held at the time of his recent appointment.

Maurice H. Lingenfelter, whose appointment as superintendent of the Wilkes-Barre division of the Pennsylvania at Sunbury, Pa., was reported in *Railway Age* of March 20, was born at Altoona, Pa., and was graduated from Cornell University. Mr. Lingenfelter entered the service of the Pennsylvania on June 1, 1920, as an apprentice at the Altoona Works. He served in various positions in the Motive Power department at Clayton, Del.; New York;

Maurice H. Lingenfelter

Norfolk, Va.; Erie, Pa., and Pittsburgh, and in 1946 he was appointed master mechanic at Indianapolis, Ind., transferring to Pitcairn, Pa., a year later. On May 1, 1947, Mr. Lingenfelter was transferred to the Philadelphia division at Harrisburg, Pa., where he remained until his recent appointment as division superintendent at Sunbury.

W. F. Kaehn, superintendent terminals of the Canadian Pacific at Montreal, Que., has been appointed general superintendent of the Ontario district at Toronto, Ont., succeeding **G. N. Curley,** who has been appointed general manager of the Eastern region at Toronto. A biographical sketch and photograph of Mr. Curley appeared in *Railway Age* of August 16, 1947, page 78.

Herbert E. Bixler, general merchandise manager of the New York, New Haven & Hartford at New Haven, Conn., has been appointed general superintendent of transportation, with the same headquarters, succeeding **F. J. Orner,** who has been appointed superintendent of freight transportation at New Haven.

A. C. McCarthy, superintendent of transportation of the Grand Trunk Western, with headquarters at Detroit, Mich., has been promoted to the newly-created posi-

tion of general superintendent, with headquarters as before at Detroit. Mr. McCarthy is succeeded by **J. H. Whelan,** superintendent of terminals at Chicago, who in turn is replaced by **T. D. Ash,** trainmaster at Flint, Mich.

A. J. Lomas, general superintendent of the Canadian National at Montreal, Que., has been appointed general manager of the Central region, with headquarters at Toronto, Ont. Mr. Lomas was born at Spondon, Derby, England, on February 17, 1888, and entered railroad service on July 3, 1909, as baggageman with the Canadian Northern (now Canadian National) at Lake Joseph, Ont. After serving in various other capacities with the Canadian Northern and the Canadian National, he became assistant superintendent at Hornepayne, Ont., on April 16, 1937,

A. J. Lomas

being transferred to Capreol, Ont., on February 21, 1938. Mr. Lomas was promoted to superintendent of the Capreol division, with headquarters at Capreol, in February, 1940, and became superintendent terminals at Toronto, Ont., on June 17, 1942. He was promoted to general superintendent of the Montreal district at Montreal, Que., on July 1, 1944, which position he held until his recent promotion to general manager of the Central region at Toronto.

G. F. VanLuvanee, who has been on leave of absence since last month, has resumed his duties as superintendent of the Philadelphia division of the Reading at Philadelphia, Pa. **A. R. Nice, Jr.,** who has been acting superintendent of the Philadelphia division, has returned to the Reading division as assistant superintendent.

M. L. Smith, assistant superintendent of the Missouri Pacific's St. Louis Terminal division (west side of river), at St. Louis, Mo., has been appointed director of terminals—freight train classification, with headquarters at St. Louis, succeeding **J. S. Walker,** assigned other duties. Mr. Smith is succeeded by **V. A. Gordon,** who has been transferred from Dupo, Ill. **J. D. Woodard,** trainmaster at Osawatomie, Kan., has been appointed assistant superintendent of the St. Louis Terminal division (east side of river), at Dupo, replacing Mr. Gordon. Succeeding Mr. Woodard is **J. J. McQuade,** trainmaster at Hoisington, Kan., who in turn is replaced by **F. Sparks,** trainmaster at Salina, Kan. Mr. Sparks is succeeded by **C. A. Richter.**

J. D. Eastham has been appointed staff assistant—operations, of the Chicago & Illinois Midland, with headquarters at Springfield, Ill.

Paul M. Wolfe, whose appointment as superintendent passenger transportation of the New York Central at Cleveland, Ohio, was reported in the *Railway Age* of March 20, was born on May 18, 1898, at Indianapolis, Ind. Mr. Wolfe was graduated from the public and technical high schools of Indianapolis, and attended Wabash College, Crawfordsville, Ind., entering railroad service on July 17, 1922, with the New York Central as stenographer in the car department at Indianapolis. He became clerk in the office of the general superintendent transportation at Indianapolis on November 1, 1924, and secretary to general superintendent trans-

Paul M. Wolfe

portation at Indianapolis on August 1, 1930. On May 1, 1931, he became inspector passenger transportation of the Cleveland, Cincinnati, Chicago & St. Louis at Indianapolis, then serving in a similar capacity for the N.Y.C. system at New York from December 1, 1941, to January 1, 1945. During the following ten months, Mr. Wolfe served as railroad specialist for the War Department at Washington, D. C., and on November 1, 1945, he became inspector passenger service of the N.Y.C. system at New York. He was appointed assistant to general superintendent passenger transportation at New York on January 1, 1946, which position he held until his recent appointment.

Walter J. O'Maley, superintendent of the city division of the Railway Express Agency, with headquarters at Boston, Mass., has been appointed general manager of the Mid-Central department, with headquarters at Chicago, succeeding **James G. Shannon,** who has retired after more than 48 years of service. **Emil J. Hardesty** superintendent of the Detroit, Mich., city division, has been appointed general manager of the Eastern Lakes department at Cleveland, Ohio, succeeding **John R. Marra,** whose transfer to Boston was reported in the *Railway Age* of April 10. **Gordon A. McLachlan,** general agent at Indianapolis, Ind., has been appointed safety director for the Central departments at Chicago, succeeding **George Macklem,** who has been appointed superintendent of the Detroit division at Detroit, Mich. **Leo F. Schmit,** general agent at Minneapolis, Minn., succeeds the late **H. U. Wilcox,** as superintendent) of the Southern Nebraska-Iowa division at Lincoln, Neb. **M. S. Cogan,** assistant to general manager at New York, has been appointed superintendent of the Boston division at Boston, succeeding Mr. O'Maley.

MECHANICAL

W. C. Ellison, general mechanical inspector of the Atchison, Topeka & Santa Fe at Topeka, Kan., has been appointed master mechanic of the Gulf, Colorado & Santa Fe (part of the Santa Fe System) at Galveston, Tex., succeeding **F. M. Mozley,** retired. Mr. Ellison is succeeded by **James E. Benfer,** general roundhouse foreman, with headquarters at La Junta, Colo.

S. P. Byrnes, superintendent of motive power of the International-Great Northern (part of the Missouri Pacific Lines) at Palestine, Tex., has been appointed acting master mechanic at San Antonio, Tex., succeeding **F. E. Lacey,** who has been granted a leave of absence due to ill health. **H. G. Smith** has been appointed acting superintendent of motive power, succeeding Mr. Byrnes.

TRAFFIC

J. H. Mahan, assistant district freight and passenger agent of the Southern Pacific, with headquarters at Elko, Nev., has been appointed district freight and passenger agent at Reno, Nev., succeeding **Theodore Bergerson,** who has retired after 45 years of service with the road.

Joseph V. Maxwell, whose promotion to assistant freight traffic manager of the Fort Worth & Denver City and the Wichita Valley (parts of the Burlington Lines), at Houston, Tex., was reported in *Railway Age* of March 6, was born on January 6, 1903, at Madison, Ind. Mr. Maxwell received his higher education at the Central Business College, Indianapolis, Ind., and at extension classes offered by Indiana University. He began his railroad career in 1922

as a stenographer with the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central System), at Indianapolis, and in the following year he joined the Chicago, Burlington & Quincy in that city as stenographer and chief clerk in the general agent's office. He went to Detroit, Mich., in 1927,

Joseph V. Maxwell

becoming, successively, chief clerk in the general agent's office, city and traveling freight agent in 1929 and commercial agent in 1938. Mr. Maxwell was appointed general agent, freight department, of the Burlington Lines in St. Louis, Mo., in 1940, which post he held at the time of his recent promotion.

A. H. Zavadil, traveling freight and passenger agent of the Missouri-Kansas-Texas, at Chicago, has been appointed general agent, freight department, with headquarters remaining at Chicago. He succeeds **L. R. Hahn,** who at his own request, has been transferred to Seattle, Wash.

Claude W. Getty, whose appointment as assistant passenger traffic manager of the Pennsylvania at Philadelphia,

Claude W. Getty

Pa., was reported in *Railway Age* of March 20, was born at Eagleville, Pa., and entered the service of the Pennsylvania in 1907 as a clerk. After various promotions he became assistant general passenger agent at Philadelphia in 1932 and general passenger agent in 1940, holding the latter position at the time of his recent promotion to assistant passenger traffic manager.

Reid M. Rowan, whose appointment as assistant traffic manager of the Texas & Pacific, with headquarters at San Francisco, Cal., was reported in *Railway Age* of February 28, was born on January 3, 1895, at Shawneetown, Ill., and began his railroad career with the

Reid M. Rowan

Atchison, Topeka & Santa Fe in 1914. He later served with the Union Pacific and the St. Louis-San Francisco, joining the T. & P. at San Francisco in 1922. Mr. Rowan was general agent at San Francisco prior to his appointment as assistant traffic manager.

George H. Sheridan, whose appointment as traffic manager of the Canadian National express department at Montreal, Que., with system jurisdiction, was re-

George H. Sheridan

ported in the *Railway Age* of March 27, was born at Montreal and began railway service in the express claims office of the Canadian National at Montreal in 1923. He transferred as a clerk to the traffic department of the Canadian National Express in 1927 and served in various clerical positions until 1942, when he was appointed chief clerk, the position he held until his recent appointment.

Edward W. Martin, whose promotion to general freight agent of the Atchison, Topeka & Santa Fe at Los Angeles, Cal., was reported in *Railway Age* of February 28, was born on April 8, 1893, at Joliet, Ill., and received his higher education at Michigan State College. He began his railroad career with the Pere Marquette (now part of the Chesapeake & Ohio) in 1918 at Detroit, Mich., and in 1925 he joined the Santa Fe in that city as city freight agent.

Edward W. Martin

Mr. Martin was advanced to district freight agent at Detroit in 1939 and to general agent at Minneapolis, Minn., in 1943. In 1946 he was promoted to assistant general freight agent at Denver, Colo., which post he held at the time of his recent appointment.

W. H. Carr has been appointed assistant general freight agent of the St. Louis Southwestern, with headquarters at St. Louis, Mo.

C. E. Engstrom, traveling freight agent of the Atchison, Topeka & Santa Fe, at Los Angeles, Cal., has been appointed foreign freight agent at that point, succeeding **F. H. Beeman,** whose death was reported in the *Railway Age* of April 10.

Louis J. Smith, Jr., general agent of the Chicago Great Western, at Los Angeles, Cal., has been appointed western traffic manager, with headquarters at San Francisco, Cal.

Gerald D. Johnson, traveling freight agent of the Great Northern, at San Francisco, Cal., has been appointed general agent at Seattle, Wash., succeeding **John W. Bourke,** who resigned to join the Department of Agriculture.

H. T. Culp, general agent of the St. Louis Southwestern at Texarkana, Ark.,

has been appointed assistant general freight agent at Fort Worth, Tex., succeeding the late **Norman Lawson.** Mr. Culp is succeeded by **S. D. Swann,** general agent at Pine Bluff, Ark., who in turn is succeeded by **R. H. Hubbard,** commercial agent at St. Louis, Mo.

Albert F. Hatcher, foreign freight agent of the Chicago, Rock Island & Pacific at Houston, Tex., has been appointed general agent at New Orleans, La.

F. K. Beem, general agent of the Chicago, Milwaukee, St. Paul & Pacific at Atlanta, Ga., has been appointed to the newly created position of assistant general agent, freight department, with headquarters at Chicago.

Roy H. Peterson, general agent of the Chicago, Rock Island & Pacific at Duluth, Minn., has been appointed division freight agent at Davenport, Iowa, succeeding **John J. Cunningham,** who replaces Mr. Peterson at Duluth.

PURCHASES and STORES

L. R. Cooley, whose retirement as general storekeeper of the Central of New Jersey at New York was reported in the *Railway Age* of April 3, was born at Flemington, N. J., on July 19, 1877. After attending Flemington high school and Stewart Business College, Mr. Cooley entered railroad service on August 23, 1899, as a clerk in the motive power department of the Central of New Jersey. On September 1, 1908, he became chief clerk in the motive power department and on September 1, 1914, he was appointed general storekeeper of the C.N.J. Mr. Cooley became assistant general storekeeper of the C.N.J. and the Reading on January 1, 1938, and was appointed general storekeeper of the C.N.J., on November 16, 1943, which position he held until his retirement.

ENGINEERING and SIGNALING

Albert A. Johnson, whose appointment as assistant chief engineer of the Delaware, Lackawanna & Western at Hoboken, N. J., was reported in the *Railway Age* of March 27, was born at Mansfield, Pa., on July 8, 1882, and attended Mansfield State Normal School and Lafayette College, receiving his civil engineering degree from the latter in 1907. Mr. Johnson entered railroad service in October, 1907, on the engineering corps of the New York Central at New York, serving successively until 1910 as rodman, draftsman and transitman. He served as assistant supervisor of track on the Eastern division of the N.Y.C. at Hudson, N. Y., and Pawling, from 1910 to 1916, when he became assistant division engineer of the Eastern division at New York. Two years later Mr. Johnson became assistant engineer in the office of the engineer of track of the N.Y.C. at New York and in 1920 he was appointed supervisor of track at Kingston, N. Y, being transferred to Albany, N. Y., in 1924. He entered the service of the Delaware, Lackawanna & Western in 1925 as

Albert A. Johnson

engineer of track at Hoboken, becoming engineer of maintenance of way on August 16, 1934, which position he held until his recent promotion to assistant chief engineer.

Guy W. Harris, whose retirement as chief engineer of the Atchison, Topeka & Santa Fe System, at Chicago, was reported in *Railway Age* of April 10, was born on March 7, 1878, at Neosho Falls, Kan. He began his career with the Santa Fe Pacific (now A. T. & S. F.) in 1898, as a rodman, and subsequently served also as chainman,

Guy W. Harris

transitman and assistant engineer at various points on the road. In 1906 he became assistant engineer in charge of construction work of the Pecos & Northern Texas and the Southern Kansas of Texas, at Amarillo, Tex., advancing to chief engineer of the P. & N. T. in 1909. Mr. Harris was appointed chief engineer of the Santa Fe's Coast Lines, at Los Angeles, Cal., in 1912, which post he held until 1918, when he became corporate chief engineer of the railroad during federal control, with headquarters at Chicago. He was appointed assistant chief engineer of the Santa Fe system in 1920 and chief engineer in 1928. Mr. Harris is a member of the American Railway Engineering Association, of which he was a director and chairman of the committee on publications from 1930 to 1933.

Charles Freeman, telegraph and telephone engineer of the Western Pacific, with headquarters at San Francisco, Cal., has been promoted to superintendent of telegraph at that point, succeeding **Norman W. Menzies,** who has been granted a leave of absence because of ill health.

S. McIlwain, assistant engineer of the Canadian National at Allandale, Ont., has been appointed division engineer of the Allandale division, succeeding **W. E. Mellor,** transferred. **E. T. Gove,** assistant to engineer maintenance of way at Toronto, has been appointed assistant district engineer of the Northern Ontario district at North Bay, Ont.

E. Osland, assistant engineer of the Atchison, Topeka & Santa Fe at Chicago, has been appointed office engineer at that point succeeding F. S. Hewes, whose death was reported in *Railway Age* of March 20.

SPECIAL

John R. Tucker, whose appointment as personnel manager of the Virginian at Norfolk, Va., was reported in the *Railway Age* of April 3, was born on October 7, 1902, in Nottoway county, Va. Mr. Tucker entered railroad service with the Virginian, becoming caller at Victoria, Va., on October 31, 1918, and yard clerk there six months

John R. Tucker

later. On August 31, 1925, he was appointed assistant timekeeper in the superintendent's office at Victoria. From January 30, 1942, to October 8, 1945, he served as chief clerk to general yardmaster, assistant yardmaster, acting

general yardmaster, general yardmaster, yardmaster and night general yardmaster, all at Sewalls Point, Va. On the latter date Mr. Tucker became general yardmaster at Roanoke, Va., and on December 15, 1947, he was appointed assistant personnel manager at Norfolk, which position he held until his recent promotion to personnel manager.

W. A. Gammon, assistant vice-president of the Santa Fe Trail Transportation Company (subsidiary of the Atchison, Topeka & Santa Fe) has been appointed also assistant general manager of the Santa Fe's department of highway motor transport, with headquarters at Chicago.

Richard L. Miller, fuel inspector of the Southern, with headquarters at Harriman, Tenn., has been promoted to safety supervisor at Birmingham, Ala., succeeding **Carlton Blackman,** resigned.

Lee A. Parker, assistant superintendent of the Railway Express Agency, with headquarters at Salt Lake City, Utah, has been promoted to superintendent of the Central California division, with headquarters at San Francisco, Cal., succeeding **C. M. Hall,** resigned.

R. J. Murray, special agent of the Great Northern, with headquarters at Willmar, Minn., has been promoted to chief special agent, at St. Paul, Minn., succeeding the late **M. J. Wegener.**

OBITUARY

James Gilmore Carlisle, director of industrial development of the Missouri Pacific, with headquarters at St. Louis, Mo., died at the M. P. hospital in that city on April 3. Mr. Carlisle was born on January 19, 1873, at Irwinton, Ga., and began his railroad career in 1891, in the office of the general agent, Central of Georgia, at Macon, Ga. He later served there successively as clark, soliciting agent, traveling passenger agent commercial agent and division freight agent. In 1912 he went to Savannah, Ga., as assistant general freight agent, being advanced to general freight agent in 1917 and to assistant freight traffic manager in the following year. Following World War I he left the C. of Ga. to become engaged in activities outside the railroad field. On September 1, 1924, he joined the M. P. as general freight agent, at St. Louis, advancing in 1927 to director of industrial development, the post he held at the time of his death.

Colin Macrae Ingersoll, retired consulting engineer who participated in the early development of the New York, New Haven & Hartford, and served as its chief engineer from 1900 to 1905, died on April 7 at his home in Salisbury, Conn., at the age of 89.

Allan Wodsworth Carpenter, who served as engineer of bridges, engineer of structures and assistant valuation engineer of the New York Central before his retirement, died on April 9 at Yonkers (N. Y.) Professional hospital, at the age of 75.

M. J. Wegener, chief special agent of the Great Northern, at St. Paul, Minn., died on March 28.

Norman Lawson, assistant general freight agent of the St. Louis Southwestern, with headquarters at Fort Worth, Tex., died on March 3.

John E. (Jim) Clark, assistant freight traffic manager of the Chesapeake & Ohio at Chicago, died suddenly of a heart attack at his home in that city on April 13.

OPERATING REVENUES AND OPERATING EXPENSES OF CLASS I STEAM RAILWAYS

Compiled from 127 monthly reports of revenues and expenses representing 131 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JANUARY 1948 AND 1947

Item	United States		Eastern District		Southern District		Western District	
	1948	1947	1948	1947	1948	1947	1948	1947
Miles of road operated at close of month	227,218	227,572	53,701	53,732	46,149	46,254	127,368	127,586
Revenues:								
Freight	$613 361,412	$551,131,914	$230,157,364	$209,768,538	$135,047,436	$123,275,953	$248,156,612	$218,087,423
Passenger	80,896,924	82,451,243	41,593,554	40,529,940	13,706,767	15,114,610	25,596,603	26,806,693
Mail	15,137,647	11,118,796	5,446,395	3,916,816	2,714,629	2,035,119	6,976,623	5,166,861
Express	7,883,915	8,980,634	1,406,610	2,594,996	1,808,342	1,576,780	4,668,963	4,808,858
All other operating revenues	33,454,889	31,947,347	14,786,630	14,263,133	5,813,368	5,318,041	12,854,891	12,366,173
Railway operating revenues	750,734,787	685,629,934	293,390,553	271,073,423	159,090,542	147,320,503	298,253,692	267,236,008
Expenses:								
Maintenance of way and structures	102,436,923	96,753,586	38,839,045	30,803,894	22,510,483	20,462,312	41,087,395	35,487,380
Depreciation	10,280,022	10,104,367	4,361,864	4,314,419	1,784,334	1,732,357	4,133,824	4,057,591
Retirements	488,754	346,305	113,268	149,366	50,874	71,755	324,612	125,184
Deferred maintenance	*331,884	*207,247	*10,131	*38,923	*159,575	*22,820	*162,178	*145,504
Amortization of defense projects	142,290	107,078	13,295	11,700	43,386	28,701	85,609	66,677
Equalization	5,298,030	4,627,661	1,985,800	2,362,482	1,824,948	1,043,382	1,487,282	1,221,797
All other	86,559,711	71,775,422	32,374,949	24,004,850	18,966,516	17,608,937	35,218,246	30,161,635
Maintenance of equipment	140,488,112	126,207,457	59,645,902	54,548,543	28,454,197	25,970,784	52,388,013	45,688,130
Depreciation	19,831,983	18,781,866	7,830,184	7,581,575	4,425,862	4,088,012	7,575,937	7,112,279
Retirements	*67,981	*19,238	*106	*1,735	*54,351	*3,532	*13,524	*13,971
Deferred maintenance and major repairs	*412,272	*236,845	.....	*1,809	*96,531	*72,702	*315,741	*162,334
Amortization of defense projects	1,226,309	1,258,930	452,429	476,408	238,664	251,307	535,216	531,215
Equalization	495,547	446,862	106,593	56,180	295,637	363,736	93,317	26,946
All other	119,414,526	105,975,882	51,256,802	46,437,924	23,644,916	21,343,963	44,512,808	38,193,995
Traffic	15,477,728	13,729,537	5,090,247	4,729,293	3,502,336	2,957,762	6,885,145	6,042,482
Transportation—Rail line	323,241,290	281,616,686	137,872,371	122,846,180	62,068,253	53,437,261	113,300,666	105,333,245
Miscellaneous operations	11,673,822	10,944,369	4,488,762	4,085,392	1,924,402	1,694,017	5,260,658	5,164,960
General	22,537,641	19,869,229	8,718,796	7,688,629	4,886,676	4,252,489	8,932,169	7,928,111
Railway operating expenses	615,855,516	539,120,864	254,655,123	224,701,931	123,346,347	108,774,625	237,854,046	205,644,308
Net revenue from railway operations	134,879,271	146,509,070	38,735,430	46,371,492	35,744,195	38,545,878	60,399,646	61,591,700
Railway net accruals	79,004,455	75,131,474	26,909,359	25,546,445	18,828,343	19,120,059	33,266,753	30,464,970
Pay-roll taxes	30,995,009	28,489,905	12,945,277	11,889,093	6,151,154	5,624,576	11,898,578	10,976,236
Federal income taxes	23,863,324	23,944,532	5,433,397	4,795,059	7,442,037	8,708,050	10,987,890	10,441,423
All other taxes	24,146,122	22,697,037	8,530,685	8,862,293	5,235,152	4,787,433	10,380,285	9,047,311
Railway operating income	55,874,816	71,377,596	11,826,071	20,825,047	16,915,852	19,425,819	27,132,893	31,126,730
Equipment rents—Dr. balance	10,975,244	9,414,447	4,957,569	4,586,528	*1,053,610	*63,891	7,071,285	4,891,810
Joint facility rent—Dr. balance	3,602,420	3,464,288	1,839,274	1,700,979	524,227	609,468	1,238,919	1,153,841
Net railway operating income	41,297,152	58,498,861	5,029,228	14,537,540	17,445,235	18,880,242	18,822,689	25,081,079
Ratio of expenses to revenues (per cent)	82.0	78.6	86.8	82.9	77.5	73.8	79.7	77.0

*Decrease, deficit, or other reverse item.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to Revision.

a unit of POWER

THIS locomotive is a unit of power. It illustrates a significant fact. Where the amount of power that can be packed into a single unit is important—where you want 6000, 8000, even 10,000 horsepower in one engine—the steam locomotive is unchallenged.

We build such locomotives—steam locomotives like this that have developed 8,000 horsepower and can do more. We will continue to do so. They are fine pieces of machinery. Modern in every respect, they are establishing remarkable records for economy, reliability and low maintenance.

Don't sell these steam giants short. They have their place—and in their place are unsurpassed.

LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1948	Net railway operating income 1947
Akron, Canton & Youngstown	Feb.	171	484,204	29	499,685	66,198	44,386	24,058	136,569	294,676	59.0	205,009	77,469	103,894	56,670
	2 mos.	171	952,283	93	990,671	128,656	88,019	48,202	284,088	595,557	60.1	395,114	154,513	193,676	141,325
Atchison, Topeka & Santa Fe System	Feb.	13,081	28,622,081	3,760,428	35,794,755	5,085,007	6,552,585	951,164	14,108,883	28,352,334	79.2	7,442,421	4,565,744	3,423,157	3,621,271
	2 mos.	13,081	60,669,936	7,893,544	75,480,718	10,471,328	13,693,128	1,838,823	28,850,675	58,177,051	77.1	17,303,667	9,956,673	7,780,700	8,050,969
Atlanta & St. Andrews Bay	Feb.	82	176,322	910	183,854	18,515	16,275	5,803	47,021	97,567	53.1	86,287	35,035	41,070	25,631
	2 mos.	82	352,204	2,016	366,904	37,471	34,346	12,241	98,855	204,278	55.7	162,626	66,603	76,844	51,100
Atlanta & West Point	Feb.	93	261,408	54,706	361,984	27,917	52,463	13,676	181,338	297,186	82.1	64,798	31,706	11,857	—17,266
	2 mos.	93	539,182	115,653	747,555	61,567	106,407	27,376	377,696	618,436	82.7	129,119	66,655	25,365	—12,931
Western of Alabama	Feb.	133	269,073	55,354	362,308	29,138	55,004	13,684	150,476	268,465	74.1	93,843	48,692	43,986	15,379
	2 mos.	133	536,029	117,691	728,261	66,864	119,441	26,925	303,297	556,976	76.5	171,285	94,412	79,858	32,113
Atlantic Coast Line	Feb.	5,572	9,074,684	2,089,372	12,172,338	1,932,591	1,665,432	298,954	4,972,194	9,401,560	77.2	2,770,778	1,100,000	1,324,897	877,190
	2 mos.	5,572	18,396,496	4,256,293	24,692,821	3,888,352	3,388,281	617,113	10,111,522	19,086,393	77.3	5,606,428	2,200,000	2,662,109	1,916,559
Charleston & Western Carolina	Feb.	343	369,499	6,952	387,370	73,235	76,303	13,613	167,301	340,255	87.8	47,115	30,000	7,810	48,978
	2 mos.	343	782,374	9,281	816,640	150,571	147,214	27,738	344,304	688,504	84.3	128,136	60,000	52,055	98,793
Baltimore & Ohio	Feb.	6,192	26,225,724	1,691,322	29,562,923	2,998,415	6,413,825	692,940	13,688,426	25,050,670	84.7	4,512,253	2,066,496	2,416,848	1,985,662
	2 mos.	6,192	53,592,593	3,696,467	60,643,775	6,103,068	12,795,129	1,237,823	28,142,594	50,912,627	84.0	9,731,148	4,499,584	5,069,496	4,720,905
Staten Island Rapid Transit	Feb.	29	157,981	101,639	275,344	46,755	43,354	1,604	161,560	278,280	101.1	—2,936	41,464	—64,400	—54,382
	2 mos.	29	338,021	215,317	581,440	112,531	86,882	3,223	335,471	590,117	101.5	—8,677	84,407	—139,464	—106,347
Bangor & Aroostook	Feb.	602	1,538,974	40,838	1,616,204	232,170	232,032	7,395	466,830	979,087	60.6	637,117	275,675	337,699	228,605
	2 mos.	602	2,926,726	89,081	3,086,238	476,431	424,779	14,787	892,931	1,891,827	61.3	1,194,411	519,900	642,443	387,049
Bessemer & Lake Erie	Feb.	214	1,004,760	1,173	1,019,280	122,963	468,673	18,574	376,016	1,052,716	103.3	—33,436	174,272	184,552	164,841
	2 mos.	214	2,021,756	2,606	2,053,658	249,801	943,741	36,053	756,018	2,120,678	103.3	—67,020	341,315	366,563	455,428
Boston & Maine	Feb.	1,757	5,971,339	1,295,969	7,903,357	1,389,269	1,240,969	102,648	3,490,924	6,508,655	82.4	1,394,702	574,439	289,794	412,556
	2 mos.	1,757	11,326,838	2,610,507	15,195,757	3,352,272	2,523,458	204,662	7,033,021	13,715,299	90.3	1,480,458	1,154,503	—661,044	692,443
Burlington,-Rock Island	Feb.	228	209,302	43,904	274,145	42,248	33,367	4,397	136,987	236,039	86.1	38,106	11,605	—13,653	18,116
	2 mos.	228	456,459	90,763	586,617	95,736	63,039	9,237	284,174	490,813	83.7	95,804	22,751	—7,676	17,793
Cambria & Indiana	Feb.	35	113,745	.....	113,787	11,393	100,249	773	20,889	141,544	124.3	—27,759	62,331	35,246	24,928
	2 mos.	35	253,052	.....	253,138	24,326	203,206	1,634	45,034	291,712	115.2	—38,574	131,687	80,410	91,684
Canadian Pacific Lines in Maine	Feb.	234	596,075	32,374	648,106	66,554	79,661	6,898	247,026	412,463	63.6	235,643	28,047	119,730	117,740
	2 mos.	234	1,174,233	75,521	1,297,419	140,932	162,210	11,411	509,494	849,174	65.5	448,245	55,669	199,003	193,426
Canadian Pacific Lines in Vermont	Feb.	90	130,529	16,805	165,562	43,880	38,285	4,685	177,248	270,812	163.6	—105,250	18,433	—172,059	—112,607
	2 mos.	90	297,295	33,554	373,011	93,222	71,883	7,617	338,885	524,848	140.7	—151,837	38,058	—285,893	—223,203
Central of Georgia	Feb.	1,815	2,361,769	253,065	2,902,970	447,122	472,174	100,249	1,429,647	2,612,404	90.0	290,566	255,169	12,592	—132,103
	2 mos.	1,815	4,825,285	515,175	5,908,127	913,437	958,983	203,231	2,922,342	5,322,815	90.1	585,312	518,120	9,919	—323,926
Central of New Jersey	Feb.	418	2,347,441	505,749	3,079,959	471,472	607,785	53,663	1,803,464	3,116,861	101.2	—36,902	441,637	—862,759	—600,167
	2 mos.	418	4,810,418	1,056,755	6,337,537	994,154	1,218,570	107,161	3,724,558	6,427,901	101.4	—90,364	883,097	—1,703,952	—1,106,801
Central of Pennsylvania	Feb.	213	1,481,327	19,451	1,534,801	128,022	278,630	18,913	541,044	1,004,827	65.5	529,974	72,818	692,391	503,975
	2 mos.	213	2,920,506	41,470	3,022,520	271,337	613,654	42,791	1,137,434	2,145,946	71.0	876,574	152,927	1,236,879	1,123,178
Central Vermont	Feb.	422	699,000	56,000	804,000	124,951	133,424	13,061	354,471	663,776	82.6	140,224	53,561	30,662	73,672
	2 mos.	422	1,310,000	127,000	1,536,000	245,671	284,545	25,504	728,714	1,359,083	88.5	176,917	109,391	—41,854	24,650
Chesapeake & Ohio	Feb.	5,076	23,949,300	732,094	25,655,229	4,048,321	5,162,294	804,782	10,151,025	21,296,896	83.0	4,358,333	2,899,719	2,389,016	3,529,347
	2 mos.	5,069	48,930,642	1,637,252	52,529,334	8,080,857	10,545,175	1,522,139	20,780,751	43,245,059	82.3	9,284,275	5,919,960	4,925,099	8,031,290
Chicago & Eastern Illinois	Feb.	909	2,017,455	287,327	2,559,725	301,224	460,990	88,014	1,150,494	2,133,034	83.3	426,691	190,300	122,976	35,462
	2 mos.	909	4,051,657	608,353	5,147,864	595,606	959,533	177,548	2,330,064	4,339,866	84.3	807,998	389,300	269,251	42,579
Chicago & Illinois Midland	Feb.	131	702,838	815	717,308	85,591	128,440	22,948	202,454	473,158	66.0	244,150	244,150	143,774	131,613
	2 mos.	131	1,412,782	1,707	1,451,549	177,677	262,770	54,710	388,620	951,456	65.5	500,093	225,109	302,049	245,349
Chicago & North Western	Feb.	8,058	10,094,807	1,727,323	13,487,657	2,182,093	3,018,262	287,531	6,803,208	13,055,887	96.8	431,770	1,125,140	—928,065	—811,603
	2 mos.	8,058	20,740,229	3,572,725	27,750,330	4,460,841	6,249,512	607,458	14,022,762	26,882,297	96.9	868,033	2,276,162	—1,996,841	—668,247
Chicago, Burlington & Quincy	Feb.	8,867	15,151,870	1,415,952	18,321,633	2,191,310	2,758,494	386,771	6,815,174	12,868,511	70.2	5,453,122	2,642,540	2,327,634	3,101,763
	2 mos.	8,867	30,844,082	2,980,015	37,386,533	4,475,987	5,474,879	796,507	13,983,669	26,110,709	69.8	11,275,824	5,461,258	4,848,232	6,232,051
Chicago Great Western	Feb.	1,500	2,361,242	52,397	2,643,460	221,750	346,083	92,941	1,218,886	1,944,492	73.6	698,968	287,688	218,361	147,109
	2 mos.	1,500	4,733,626	107,377	5,326,954	521,201	688,581	186,502	2,525,821	4,082,921	76.6	1,244,033	494,566	394,930	317,021
Chicago, Indianapolis & Louisville	Feb.	541	1,303,585	79,070	1,465,810	219,048	184,960	62,814	586,855	1,133,375	77.3	332,435	83,709	151,675	—108,978
	2 mos.	541	2,529,800	160,277	2,864,088	395,688	375,441	136,744	1,188,642	2,262,686	79.0	601,402	170,174	232,412	—180,796
Chicago, Milwaukee, St. Paul & Pacific	Feb.	10,671	15,529,301	1,324,081	18,672,273	2,235,928	3,345,300	347,806	9,184,266	16,034,463	85.9	2,637,774	1,550,000	65,110	1,129,179
	2 mos.	10,671	31,339,989	2,962,187	38,070,564	5,039,424	6,862,664	745,768	18,889,286	33,397,983	87.7	4,672,581	3,044,000	—270,394	2,606,340
Chicago, Rock Island & Pacific	Feb.	7,650	11,272,548	1,558,301	14,007,674	1,463,962	2,465,029	431,561	6,303,633	11,378,183	81.2	2,629,491	1,208,955	665,791	1,339,414
	2 mos.	7,650	23,268,579	3,487,014	29,183,405	3,118,458	4,988,368	875,844	12,941,823	23,372,684	80.1	5,810,721	2,685,962	1,725,338	3,142,088
Chicago, St. Paul, Minn. & Omaha	Feb.	1,617	2,126,005	185,988	2,539,800	352,510	407,528	55,527	1,357,040	2,284,973	90.0	254,827	203,979	—67,344	—75,241
	2 mos.	1,617	4,326,139	390,002	5,177,220	724,702	850,841	111,444	2,845,234	4,755,178	91.8	422,042	413,824	—343,219	—42,837
Clinchfield R. R.	Feb.	317	1,583,176	5,658	1,598,212	119,753	293,083	31,574	534,780	1,009,592	63.2	588,620	164,878	496,875	607,040
	2 mos.	317	3,276,110	11,285	3,310,372	283,622	584,872	63,274	1,101,430	2,092,922	63.2	1,217,450	329,399	1,023,060	1,362,043
Colorado & Southern	Feb.	745	872,054	104,424	1,067,867	116,130	295,932	22,206	472,427	861,425	80.7	206,442	122,530	51,661	62,124
	2 mos.	745	1,835,259	207,043	2,237,471	246,995	409,729	45,275	978,892	1,775,326	79.4	462,145	264,331	126,567	106,345
Ft. Worth & Denver City	Feb.	902	797,724	148,855	1,042,377	155,632	161,376	35,137	416,625	838,111	80.4	204,266	80,398	88,288	95,045
	2 mos.	902	1,776,682	305,970	2,278,577	327,847	343,448	73,092	887,655	1,774,801	77.9	503,776	202,426	225,512	216,393

Table continued on next left-hand page.

Santa Fe

NO. 3752

modernized with

The Franklin System of Steam Distribution . . . TYPE B

Built — 1928
Type 4-8-4
Service — Passenger and Freight
Cylinders 30" x 30"
Driving Wheels 80"
Boiler Pressure 230 lbs.

On February 4th, Santa Fe's modernized 4-8-4 type locomotive, No. 3752, re-entered service and is being used on both freight and passenger runs.

This locomotive is equipped with the Type B Franklin System of Steam Distribution as described in Franklin Bulletin No. 28 and as demonstrated at the Atlantic City and Chicago Conventions. Crank-supported Driving Gear Boxes are used, and one intake and two exhaust poppet valves are employed for each end of each cylinder.

In addition to fuel and water savings and increased horsepower, Santa Fe is looking forward to time saving made possible by quicker acceleration and higher operating speeds on grades. With the simplicity of this design, with all drive parts located on the outside, and with improved drifting conditions, valve-gear and machinery maintenance will be reduced and locomotive availability substantialy increased.

FRANKLIN RAILWAY SUPPLY COMPANY

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

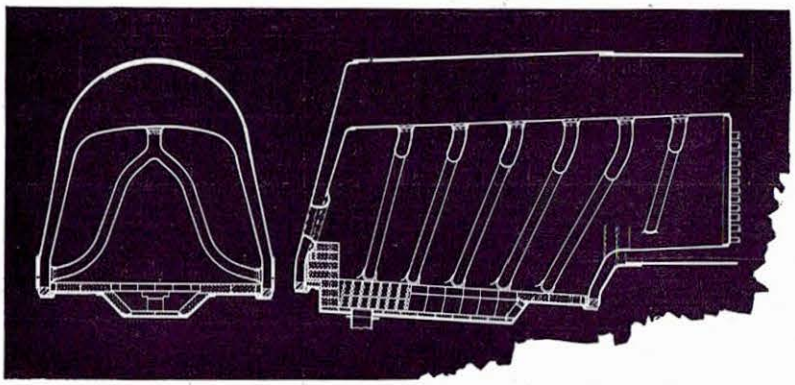
REVENUES AND EXPENSES OF RAILWAYS

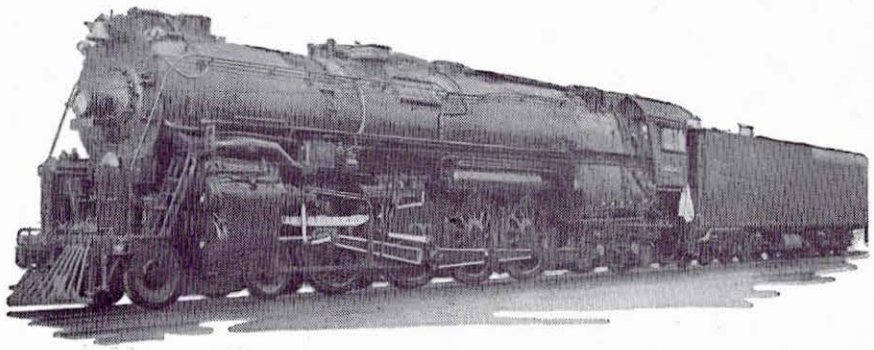
MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1948	1947
Colorado & Wyoming	Feb.	41	136,350	.....	221,437	8,695	21,347	430	83,869	125,180	56.5	96,257	49,094	46,911	40,940
	2 mos.	41	283,076	.....	450,957	18,790	43,038	848	166,957	246,470	54.6	204,487	103,028	100,691	58,683
Columbus & Greenville	Feb.	168	138,610	878	150,646	27,716	22,793	4,641	42,567	114,171	75.8	36,475	24,644	17,075	17,148
	2 mos.	168	271,770	2,192	297,541	61,565	47,452	9,171	87,907	237,513	79.8	60,028	39,782	30,094	12,647
Delaware & Hudson	Feb.	794	4,412,708	161,442	4,685,379	463,655	999,974	64,015	1,970,518	3,663,175	78.2	1,022,204	562,219	509,573	311,871
	2 mos.	794	8,634,257	332,201	9,190,693	983,677	2,043,231	127,619	3,906,935	7,398,923	80.5	1,791,770	1,029,199	858,791	687,604
Delaware, Lackawanna & Western	Feb.	973	5,883,024	848,847	7,239,741	785,673	1,159,341	137,249	3,589,618	5,898,518	81.5	1,341,223	710,290	562,585	408,612
	2 mos.	973	11,333,628	1,799,886	14,179,319	1,659,773	2,276,675	282,520	7,096,592	11,777,724	83.1	2,401,595	1,344,921	948,587	895,345
Denver & Rio Grande Western	Feb.	2,443	4,674,781	205,142	5,067,128	436,023	720,310	136,981	1,842,534	3,362,597	66.4	1,704,531	618,376	1,115,285	673,223
	2 mos.	2,443	9,509,889	446,792	10,373,203	946,296	1,521,369	276,612	3,892,197	7,105,295	68.5	3,267,808	1,244,472	2,130,655	987,229
Detroit & Mackinac	Feb.	230	140,096	1,074	150,496	32,500	17,240	1,157	30,935	88,735	59.0	61,761	23,699	38,372	36,954
	2 mos.	230	303,381	2,029	326,792	65,000	36,348	3,378	65,197	182,293	55.8	144,499	58,735	85,881	68,206
Detroit & Toledo Shore Line	Feb.	50	622,712	.....	624,680	35,283	41,016	11,479	176,310	274,257	43.9	350,423	100,736	115,164	110,434
	2 mos.	50	1,254,754	.....	1,258,382	74,575	79,910	23,509	361,849	560,638	44.6	679,744	221,850	229,686	217,880
Detroit, Toledo & Ironton	Feb.	464	1,398,200	659	1,452,153	123,629	291,912	20,447	349,447	818,017	56.3	634,136	244,986	350,307	291,953
	2 mos.	464	2,648,011	1,382	2,761,619	256,265	485,320	41,625	695,251	1,545,200	56.0	1,216,419	471,894	670,055	634,210
Duluth, Missabe & Iron Range	Feb.	569	225,623	2,215	260,033	479,432	432,150	6,865	390,363	1,372,013	527.6	—1,111,980	82,712	—1,200,473	—901,482
	2 mos.	569	346,826	4,521	418,559	865,078	839,860	13,486	797,112	2,635,333	629.6	—2,216,774	168,945	—2,414,569	—1,930,775
Duluth, Winnipeg & Pacific	Feb.	175	447,000	1,000	454,000	55,738	48,135	3,341	176,643	288,841	63.6	165,159	35,497	88,224	6,569
	2 mos.	175	812,000	2,800	826,500	101,101	96,820	6,796	346,964	563,557	68.2	262,943	77,289	67,032	21,785
Elgin, Joliet & Eastern	Feb.	391	2,960,112	.....	3,569,668	139,585	506,105	38,429	1,496,499	2,278,039	63.8	1,291,629	462,274	493,625	320,739
	2 mos.	391	5,993,126	.....	7,123,600	362,267	1,000,771	61,482	3,068,993	4,686,557	65.8	2,437,043	954,198	846,694	796,002
Erie	Feb.	2,229	13,062,636	589,376	14,387,402	1,243,809	2,236,533	264,557	6,215,062	10,559,217	73.4	3,828,185	1,689,696	1,617,435	634,425
	2 mos.	2,229	24,604,605	1,283,380	27,321,145	2,644,217	4,607,696	549,916	12,358,260	21,384,258	78.3	5,936,887	2,825,622	2,248,650	1,470,458
Florida East Coast	Feb.	575	1,746,849	974,538	3,017,597	351,405	401,771	61,833	1,114,907	2,131,840	70.6	885,757	260,215	494,430	473,154
	2 mos.	575	3,587,074	1,909,532	6,074,498	672,532	824,327	132,309	2,276,861	4,333,456	71.3	1,741,042	510,017	961,664	1,035,472
Georgia Railroad	Feb.	326	563,121	35,837	644,972	84,019	108,520	27,195	334,654	581,300	90.1	63,672	45,430	31,941	—20,612
	2 mos.	326	1,176,620	68,823	1,335,504	170,468	216,719	55,868	696,082	1,195,157	89.5	140,347	92,377	83,504	1,191
Georgia & Florida	Feb.	408	202,147	1,694	209,506	52,975	31,523	12,001	91,379	196,078	93.6	13,428	16,728	—16,167	6,885
	2 mos.	408	417,975	3,723	433,332	107,636	61,917	23,968	184,694	394,984	91.2	38,348	33,498	—21,853	—7,179
Grand Trunk Western	Feb.	972	3,400,000	166,000	3,819,000	541,679	714,509	55,441	1,865,698	3,317,179	89.9	501,821	265,584	74,048	99,521
	2 mos.	972	6,868,000	348,000	7,706,000	1,149,181	1,469,971	109,647	3,819,491	6,850,682	88.9	855,318	541,319	—36,255	361,503
Canadian Nat'l Lines in New Engl	Feb.	172	175,000	6,000	192,000	63,794	30,186	2,634	134,645	244,843	127.5	—52,843	25,372	—114,889	—60,688
	2 mos.	172	339,000	13,300	382,000	119,919	60,964	5,459	271,462	480,059	125.7	—98,059	50,744	—225,171	—132,385
Great Northern	Feb.	8,333	11,323,651	849,147	13,228,281	2,284,130	2,567,244	312,855	5,814,388	11,558,765	87.4	1,669,522	1,468,934	28,500	294,731
	2 mos.	8,333	24,095,767	1,776,240	27,935,071	4,826,873	5,384,314	624,057	12,151,378	24,206,176	86.7	3,728,895	2,983,090	191,913	605,771
Green Bay & Western	Feb.	224	306,391	—6	311,488	47,870	28,678	18,272	89,442	199,259	64.0	112,229	59,500	39,419	31,612
	2 mos.	224	581,716	34	592,445	96,912	63,752	36,832	182,285	409,184	69.1	183,260	103,002	52,576	42,056
Gulf, Mobile & Ohio	Feb.	2,906	5,259,295	430,683	6,116,494	1,031,238	1,038,700	207,802	2,123,364	4,704,169	76.9	1,412,325	564,435	470,000	471,423
	2 mos.	2,906	10,791,524	973,521	12,642,254	2,166,835	2,170,677	439,672	4,334,122	9,790,789	77.4	2,851,465	1,178,089	1,005,971	864,736
Houston & Brazos Valley	Feb.	37	157,482	1,444	159,684	13,779	4,200	2,655	34,085	58,736	36.8	100,948	31,195	62,193	54,495
	2 mos.	37	290,182	2,939	294,753	25,325	9,974	4,598	67,618	115,310	39.1	179,443	54,519	103,701	112,816
Illinois Central	Feb.	6,581	17,685,540	1,957,876	21,789,182	3,069,132	3,800,919	402,803	8,161,333	16,306,767	74.8	5,482,415	2,776,938	2,358,278	1,941,506
	2 mos.	6,581	34,407,200	3,905,456	42,562,167	6,260,165	7,735,381	793,337	16,868,270	33,513,767	78.7	9,048,400	4,902,873	3,588,381	3,906,165
Illinois Terminal	Feb.	474	823,595	114,496	1,039,530	136,400	127,807	27,758	401,958	726,996	69.9	312,534	139,290	146,266	108,040
	2 mos.	474	1,594,147	224,015	2,021,801	271,754	269,030	57,644	799,576	1,468,233	72.6	553,568	252,214	242,567	249,506
Kansas City Southern	Feb.	890	2,840,859	82,093	3,150,980	244,894	353,529	76,206	970,801	1,759,366	55.8	1,391,614	528,000	713,298	496,370
	2 mos.	890	5,747,477	172,573	6,401,506	511,798	742,818	161,870	1,949,565	3,591,158	56.1	2,810,348	1,070,000	1,440,248	1,033,236
Kansas, Oklahoma & Gulf	Feb.	328	473,645	934	478,924	54,143	35,508	16,425	126,258	248,712	51.9	230,212	98,753	93,110	102,564
	2 mos.	328	906,214	1,931	918,207	105,966	67,966	33,609	253,324	495,223	53.9	422,984	171,457	169,786	198,245
Lake Superior & Ishpeming	Feb.	156	50,610	61	54,279	27,411	49,555	1,485	37,605	125,816	231.8	—71,537	24,937	—88,432	—71,869
	2 mos.	156	100,808	154	108,146	58,735	105,162	2,887	76,033	263,001	243.2	—154,855	50,338	—189,890	—149,937
Lehigh & Hudson River	Feb.	96	297,853	.....	298,520	28,051	40,195	8,608	116,571	201,938	67.6	96,582	33,714	34,261	37,557
	2 mos.	96	550,475	.....	552,048	70,112	84,496	16,398	235,580	424,543	76.9	127,505	49,746	21,747	69,204
Lehigh & New England	Feb.	193	604,257	.....	613,432	77,858	93,140	10,919	237,966	449,938	73.3	163,494	81,963	86,680	13,716
	2 mos.	193	1,182,298	.....	1,197,083	164,857	193,265	22,159	465,820	906,712	75.7	290,371	154,989	157,474	100,479
Lehigh Valley	Feb.	1,252	5,575,011	340,914	6,225,895	801,372	1,019,596	138,468	3,214,107	5,422,403	87.1	803,492	496,475	111,441	501,312
	2 mos.	1,252	11,062,185	732,474	12,512,276	1,764,400	2,117,956	274,818	6,435,563	11,122,755	88.9	1,389,521	818,241	175,674	1,124,411
Louisiana & Arkansas	Feb.	756	1,347,021	50,185	1,460,631	152,955	130,925	44,875	495,560	868,712	59.5	591,919	254,449	226,016	204,124
	2 mos.	756	2,737,025	115,386	2,974,845	304,058	255,420	86,170	999,092	1,735,397	58.3	1,239,448	533,019	475,957	408,075

Table continued on next left-hand page

Giving 4-8-4 Oil Burners the advantages of Security Circulators





In the modernization of many oil-burning locomotives, they are being equipped with Security Circulators. The arrangement of circulators shown in the sketch — five in the firebox and one in the combustion chamber — is designed expressly for a class of 4-8-4 oil-burners.

Located right in the path of the hot gases, Security Circulators are very effective elements for speeding evaporation. There is a continuous circulation of water from the side water-legs, through the Circulators, over the top of the crown sheet.

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

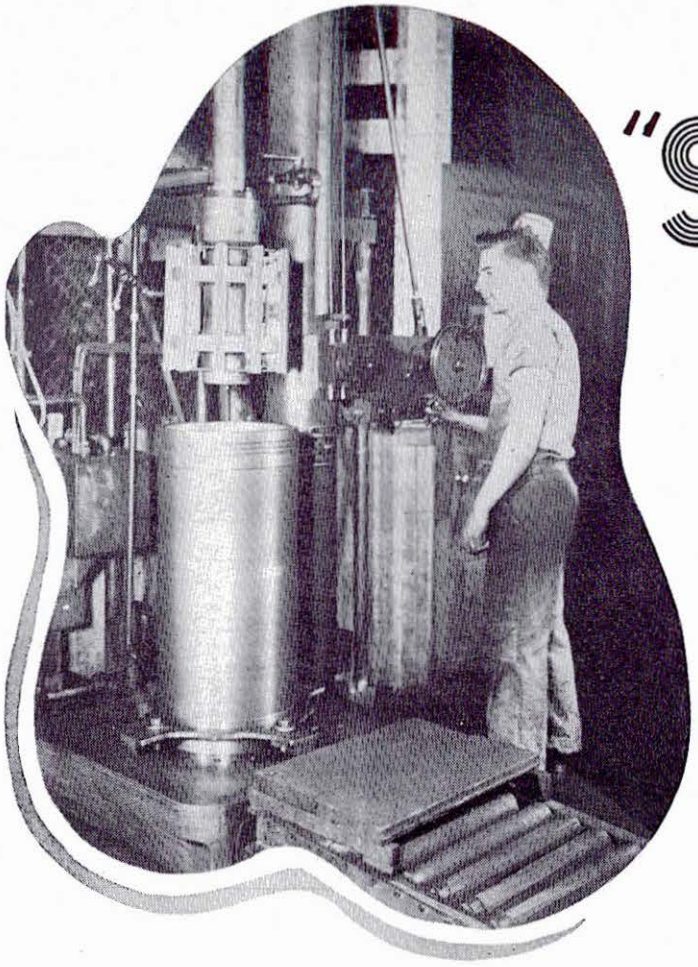
SECURITY CIRCULATOR DIVISION

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income: 1948	1947
Louisville & Nashville	Feb.	4,759	14,395,203	1,387,008	16,755,170	2,346,772	3,645,231	304,262	7,286,625	13,986,523	83.5	2,768,647	2,102,209	1,407,973	1,383,905
	2 mos.	4,759	29,052,800	2,680,436	33,865,741	4,861,337	6,903,381	603,135	14,972,670	28,556,820	84.3	5,308,921	4,089,423	2,634,346	2,937,138
Maine Central	Feb.	988	1,912,748	150,855	2,178,092	316,427	430,358	16,967	949,812	1,779,001	81.7	399,091	138,169	153,926	177,820
	2 mos.	988	3,892,179	326,512	4,456,215	720,880	834,873	33,263	1,905,130	3,622,340	81.3	833,875	343,189	309,935	336,619
Midland Valley	Feb.	334	156,348	5	159,957	27,943	14,785	2,289	52,126	104,182	65.1	55,775	22,821	25,100	30,577
	2 mos.	334	341,272	15	348,755	59,126	27,722	4,849	108,111	214,409	61.5	134,346	61,998	53,528	57,192
Minneapolis & St. Louis	Feb.	1,408	1,427,343	6,082	1,483,591	228,616	228,870	93,571	577,929	1,205,593	81.3	277,998	176,890	110,074	118,788
	2 mos.	1,408	2,876,880	13,135	2,992,049	471,437	475,590	197,349	1,147,847	2,462,279	82.3	529,770	340,168	201,138	246,179
Minneapolis, St. Paul & S. S. Marie	Feb.	3,225	1,863,468	85,333	2,101,347	488,767	549,052	63,982	1,201,687	2,421,246	115.2	—319,899	206,742	—554,979	—253,850
	2 mos.	2,225	3,943,418	184,414	4,439,040	962,074	1,122,933	124,241	2,540,918	4,963,374	111.8	—524,334	423,864	—951,545	—308,333
Duluth, South Shore & Atlantic	Feb.	530	432,089	10,520	462,915	67,781	94,299	15,997	202,016	399,609	86.3	63,306	27,858	9,216	1,601
	2 mos.	530	878,105	21,163	941,308	150,365	179,897	32,775	433,235	815,595	86.6	125,713	56,640	28,636	—4,458
Spokane International	Feb.	152	114,484	1,281	127,066	24,189	21,037	3,641	50,232	107,071	84.3	19,995	11,294	—3,110	10,743
	2 mos.	152	255,357	2,656	280,686	55,490	38,065	7,515	111,004	229,331	81.7	51,355	22,871	4,051	21,739
Mississippi Central	Feb.	148	150,919	—329	153,549	54,090	16,712	11,600	42,901	113,375	73.8	40,174	13,022	12,533	21,313
	2 mos.	148	325,395	—966	330,790	70,791	31,201	23,454	89,104	230,842	69.8	99,948	33,319	35,790	25,699
Missouri & Arkansas	Feb.	...	—4,021	2	—3,880	6,734	2,767	.....	265	13,350	100.	—17,230	2,107	—19,349	—17,128
	2 mos.	...	—9,367	12	—3,371	13,466	5,390	.....	946	30,543	100.	—33,914	4,209	—38,109	—31,322
Missouri-Illinois	Feb.	172	331,094	267	333,512	43,189	38,171	6,199	91,738	187,296	56.1	146,216	65,886	73,653	67,105
	2 mos.	172	692,616	501	697,500	88,715	79,813	12,703	187,161	384,772	55.1	312,728	136,690	155,754	121,815
Missouri-Kansas-Texas Lines	Feb.	3,253	4,665,818	331,935	5,525,224	767,754	792,928	213,907	2,485,973	4,519,296	81.8	1,005,928	389,857	313,131	414,546
	2 mos.	3,253	9,651,796	737,649	11,470,710	1,622,427	1,691,551	437,038	5,087,502	9,374,663	81.7	2,096,047	888,434	640,541	666,605
Missouri Pacific	Feb.	7,012	13,374,446	1,055,693	15,910,365	2,196,155	2,771,976	364,013	7,304,277	13,236,581	83.2	2,673,784	1,080,272	812,369	2,146,292
	2 mos.	7,012	27,846,533	2,174,452	33,090,166	4,570,005	5,693,497	766,820	14,772,899	27,049,561	81.7	6,040,605	2,197,049	2,336,184	4,301,861
Gulf Coast Lines	Feb.	1,735	3,953,844	92,711	4,213,247	729,634	394,512	72,088	1,292,237	2,599,648	61.7	1,613,599	416,012	826,677	634,784
	2 mos.	1,735	7,904,831	184,185	8,423,274	1,454,139	827,480	154,780	2,640,535	5,304,555	63.0	3,118,719	855,301	1,522,281	1,119,694
International-Great Northern	Feb.	1,110	2,129,618	165,308	2,556,724	411,429	401,650	49,516	1,251,322	2,333,564	87.4	323,160	139,939	2,471	—19,484
	2 mos.	1,110	4,442,350	392,797	5,357,382	853,205	825,644	100,350	2,549,506	4,559,539	85.3	787,843	285,353	202,083	—10,172
Monongahela	Feb.	170	702,809	1,010	708,842	72,230	64,528	862	229,032	371,475	52.4	337,367	101,545	117,941	74,935
	2 mos.	170	1,436,622	2,306	1,447,766	144,950	130,710	1,735	478,434	765,486	52.9	682,280	203,903	231,140	232,099
Montour	Feb.	51	246,138	.....	247,608	16,218	59,648	671	91,284	177,656	71.8	69,952	61,809	71,864	62,057
	2 mos.	51	497,986	.....	500,849	36,176	124,226	1,431	185,737	367,555	73.4	133,294	118,687	137,305	130,773
Nashville, Chatt. & St. Louis	Feb.	1,051	2,261,221	198,809	2,737,409	398,279	546,869	98,089	1,193,749	2,327,992	85.0	409,417	236,897	139,404	117,806
	2 mos.	1,051	4,764,969	424,009	5,772,581	851,974	1,064,628	201,098	2,459,089	4,807,325	83.3	965,256	550,325	345,211	286,515
New York Central	Feb.	10,745	40,183,980	9,324,255	55,275,240	6,986,832	12,631,703	982,716	26,815,050	50,309,402	91.0	4,965,838	5,334,840	—2,624,385	—781,310
	2 mos.	10,745	82,231,949	20,647,950	114,600,094	15,065,364	25,935,030	1,980,151	56,203,604	105,232,077	91.8	9,368,017	9,401,305	—4,982,735	1,379,980
Pittsburgh & Lake Erie	Feb.	223	2,895,884	93,604	3,102,819	414,026	863,901	62,041	1,242,282	2,735,596	88.2	367,223	531,016	548,403	413,647
	2 mos.	223	6,019,420	199,332	6,484,294	818,039	1,832,994	121,571	2,589,883	5,668,832	87.4	815,462	1,090,497	1,148,265	850,250
New York, Chicago & St. Louis	Feb.	1,687	8,474,838	104,590	8,778,103	1,024,016	1,309,020	206,217	3,257,933	6,074,735	69.2	2,703,368	1,063,272	1,197,067	776,162
	2 mos.	1,687	16,446,491	254,776	17,082,553	2,100,164	2,636,193	419,012	6,537,113	12,270,434	71.8	4,812,119	1,887,063	1,996,939	1,727,749
New York, New Haven & Hartford	Feb.	1,838	7,268,573	4,671,917	13,250,517	2,402,687	1,957,735	261,261	6,592,303	12,143,986	91.6	1,106,531	1,070,000	—1,039,594	—499,812
	2 mos.	1,838	14,560,616	9,624,914	26,717,866	5,180,436	3,909,451	481,064	12,979,446	24,440,168	91.5	2,277,698	2,140,000	—2,187,100	—482,291
New York Connecting	Feb.	21	188,711	.....	209,257	58,753	28,586	.....	83,469	173,176	82.8	36,081	71,874	—38,233	—10,393
	2 mos.	21	376,484	.....	407,641	117,441	42,040	.....	138,602	302,815	74.3	104,826	135,103	3,022	24,520
New York, Ontario & Western	Feb.	544	586,701	1,933	635,572	98,754	110,625	28,366	369,395	664,856	104.6	—29,284	53,295	—176,156	—71,869
	2 mos.	544	1,086,686	7,121	1,919,382	211,402	226,576	55,515	763,629	1,319,726	110.8	—128,344	105,388	—399,466	—153,920
New York, Susquehanna & Western	Feb.	120	367,449	43,406	428,662	54,122	42,642	5,883	194,916	319,347	74.5	109,315	39,878	—9,849	14,952
	2 mos.	120	688,674	93,458	812,540	107,802	86,455	11,280	389,634	657,208	80.8	155,332	79,818	—87,131	11,412
Norfolk & Western	Feb.	2,129	13,325,346	415,949	14,261,853	1,804,709	2,658,484	247,457	4,845,996	10,060,389	70.5	4,201,464	2,616,675	2,699,712	2,378,458
	2 mos.	2,129	27,976,468	929,220	29,961,083	3,708,838	5,498,221	505,103	9,922,339	20,629,391	68.9	9,331,692	5,480,450	5,973,738	5,392,260
Norfolk Southern	Feb.	726	603,397	.....	628,530	132,624	68,107	38,527	263,380	547,730	87.1	80,800	47,814	11,698	30,003
	2 mos.	726	1,302,242	1,094	1,352,005	283,386	147,250	76,962	555,620	1,155,757	85.5	196,248	99,365	56,254	71,013
Northern Pacific	Feb.	6,909	9,223,884	460,934	10,599,087	2,022,313	2,437,329	242,637	4,418,353	9,700,737	91.5	898,350	1,248,163	92,325	1,139,253
	2 mos.	6,909	19,222,228	1,021,688	22,114,651	4,118,289	4,891,972	477,220	9,206,314	19,911,620	90.0	2,203,031	2,542,030	333,692	2,386,960
Northwestern Pacific	Feb.	331	574,560	6,399	601,788	156,454	71,035	2,763	277,030	516,155	85.8	85,633	41,221	1,910	12,211
	2 mos.	331	1,101,998	13,364	1,157,493	312,711	144,978	7,289	562,232	1,045,282	90.3	112,111	85,758	—59,017	66,786
Oklahoma City -Ada-Atoka	Feb.	132	65,688	.....	67,486	16,725	3,244	1,177	19,651	43,513	64.5	23,973	9,045	3,407	8,379
	2 mos.	132	143,237	.....	146,956	33,106	9,920	2,608	42,564	93,748	63.8	53,208	17,512	11,991	24,822
Pennsylvania	Feb.	10,108	56,318,429	12,418,354	74,336,696	8,231,481	17,021,766	1,102,080	37,357,893	66,777,108	89.8	7,559,588	7,148,634	—255,240	—2,689,323
	2 mos.	10,108	113,518,654	26,211,666	151,710,869	17,070,653	34,609,882	2,262,187	74,780,656	135,080,886	89.0	16,629,983	14,377,903	1,313,592	—529,631
Long Island	Feb.	376	1,059,864	2,258,997	3,511,213	702,273	653,312	7,637	2,269,536	3,711,017	105.7	—199,804	499,619	—1,035,181	—761,257
	2 mos.	376	2,140,715	4,745,857	7,293,614	1,498,678	1,501,212	24,304	4,567,595	7,765,660	106.5	—472,046	1,005,693	—2,169,145	—1,555,325
Pennsylvania-Reading Seashore Lines	Feb.	389	493,302	203,825	726,124	208,933	134,646	7,899	550,099	931,305	128.3	—205,181	106,418	—417,065	—398,687
	2 mos.	389	1,025,798	403,661	1,495,291	414,248	267,609	17,911	1,124,272	1,883,350	126.0	—388,059	213,828	—826,626	—764,056
Pittsburg & Shawmut	Feb.	97	232,483	.....	233,412	28,719	45,702	4,018	68,015	154,232	66.1	79,180	46,265	24,571	53,480
	2 mos.	97	466,203	.....	468,213	60,586	81,827	7,227	145,121	311,315	66.5	156,798	54,326	84,966	108,411

Table continued on next left-hand page.



"SLICKER THAN A WHISTLE!"

are the honed inside surfaces of

HSGI Diesel Liners

Yet—close inspection reveals the "cross-hatched" surface so essential for lubrication and proper break-in of piston rings.

In Diesel maintenance it is foolish to compromise with quality—especially when it comes to liners. You need a material you know about. That means dense, uniform, heat-resisting Hunt-Spiller Gun Iron, long a mainstay for steam locomotive cylinder bushings and now preferred for Diesel liners. One reason for HSGI's longer life is its excellent machining qualities which result in a superior mirror-like finish.

HSGI liners are made for all types of Diesel engines. They may be had completely finished with the bores honed, or chrome plated. Also furnished in rough castings for finishing in your own shop.

Hunt-Spiller are exclusive railroad sales representatives for Double Seal Piston Rings made for Diesel and other services. Double Seal rings are cast from Hunt-Spiller *Air Furnace* Gun Iron.

HUNT SPILLER GUN IRON HSGI *AIR FURNACE PROCESS*

HUNT-SPILLER MFG. CORPORATION

N. C. RAYMOND, *President* — E. J. FULLER, *Vice-Pres. & Gen. Mgr.*

383 Dorchester Ave. ★ South Boston 27, Mass.

Canadian Representatives: Joseph Robb & Co., Ltd., 4050 Namur St., Montreal 16, P. Q.

Export Agents:
International Rwy. Supply Co., 30 Church Street, New York 7. N. Y.

Cylinder Bushings	Crosshead Shoes	Dunbar Sectional Type Packing
Cylinder Packing Rings	Hub Liners	Duplex Sectional Type Packing
Pistons or Piston Bull Rings	Shoes and Wedges	for Cylinders and Valves
Valve Bushings	Floating Rod Bushings	(Duplex Springs for Above
Valve Packing Rings	Light Weight Valves	Sectional Packing)
Valve Bull Rings	Cylinder Liners and Pistons	Cylinder Snap Rings
	for Diesel Service	Valve Rings, All Shapes

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income	
						Maintenance of—									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1948	1947
Pittsburgh & West Virginia	Feb.	135	581,804	.....	603,190	76,214	122,508	37,679	160,889	428,550	71.0	174,640	89,892	139,759	78,257
	2 mos.	135	1,204,639	.....	1,257,612	151,555	245,473	76,809	333,698	876,417	69.7	381,195	193,625	274,352	166,777
Reading	Feb.	1,351	8,574,064	661,005	9,700,216	1,372,824	1,958,515	121,637	4,201,720	7,937,686	81.8	1,762,530	933,083	732,960	808,618
	2 mos.	1,352	17,489,046	1,360,676	19,811,025	3,136,571	4,011,989	246,033	8,642,184	16,612,270	83.9	3,198,755	1,742,248	1,210,997	1,871,698
Richmond, Fredericksburg & Potomac	Feb.	118	1,234,675	627,860	2,104,919	238,176	306,423	17,875	930,133	1,647,833	78.3	457,086	220,709	127,577	174,676
	2 mos.	118	2,676,187	1,325,677	4,457,184	498,958	591,549	36,248	1,899,573	3,317,123	74.4	1,140,061	531,348	403,215	482,998
Rutland	Feb.	407	329,864	37,464	439,082	55,616	83,740	12,297	267,671	434,666	99.0	4,416	35,904	—44,079	—109,398
	2 mos.	407	650,624	81,099	878,858	133,059	197,114	25,681	547,798	936,076	106.5	—57,218	75,712	—153,585	—237,326
Sacramento Northern	Feb.	269	141,007	.....	144,255	63,244	14,522	2,102	69,757	156,734	108.7	—12,479	14,669	—41,551	—63,443
	2 mos.	269	265,590	.....	276,568	147,187	32,556	5,037	134,574	335,049	121.1	—55,481	31,349	116,837	—134,133
St. Louis-San Francisco	Feb.	4,645	7,014,982	608,270	8,326,478	1,306,806	1,458,819	237,304	3,874,983	7,266,765	87.3	1,059,713	697,349	437,038	758,764
	2 mos.	4,645	14,583,865	1,297,751	17,309,048	2,662,457	2,997,016	465,896	8,013,971	14,941,895	86.3	2,367,153	1,515,178	987,996	1,325,451
St. Louis, San Francisco & Texas	Feb.	159	271,026	10,419	300,437	43,518	36,087	15,386	171,846	276,864	92.2	23,573	8,433	—12,091	71,884
	2 mos.	159	626,198	18,955	682,477	91,751	68,411	30,141	340,481	551,315	80.8	131,162	50,104	28,390	55,844
St. Louis Southwestern	Feb.	1,575	4,527,202	51,657	4,730,703	448,340	574,149	130,081	1,611,884	2,918,043	61.7	1,812,660	746,908	822,914	753,382
	2 mos.	1,575	9,260,541	104,957	9,683,044	833,376	1,168,432	263,291	3,300,634	5,895,458	60.9	3,787,586	1,572,854	1,797,747	1,587,624
Seaboard Air Line	Feb.	4,152	8,573,809	1,618,922	11,091,073	1,712,644	1,845,075	298,084	4,429,574	8,849,737	79.8	2,241,336	979,400	982,663	855,452
	2 mos.	4,152	17,796,940	3,280,536	22,864,677	3,343,472	3,720,985	598,585	9,114,852	17,925,877	78.4	4,938,800	2,102,619	2,192,208	2,000,616
Southern Ry	Feb.	6,483	15,927,918	1,578,544	18,843,007	2,615,493	3,283,021	348,021	7,345,669	14,339,159	76.1	4,503,848	2,141,529	1,933,191	1,878,853
	2 mos.	6,483	33,854,538	3,415,948	40,018,238	5,382,783	7,011,991	709,695	15,339,321	29,998,953	75.0	10,019,285	4,733,707	4,430,024	3,650,175
Alabama Great Southern	Feb.	316	1,203,207	96,861	1,393,749	187,463	280,223	29,441	516,732	1,067,387	76.6	326,362	203,670	171,625	108,191
	2 mos.	316	2,515,501	228,551	2,935,120	383,146	609,648	59,488	1,037,618	2,197,818	74.9	737,302	452,997	391,576	242,675
Cinn., New Orleans & Texas Pac.	Feb.	337	2,671,820	215,152	3,039,672	372,058	638,792	55,331	946,796	2,117,869	69.7	921,802	493,553	511,153	405,456
	2 mos.	337	5,457,771	457,486	6,233,434	737,755	1,223,610	106,246	1,918,956	4,200,051	67.4	2,033,383	1,080,426	1,147,825	860,779
Georgia Southern & Florida	Feb.	397	439,628	96,553	593,600	115,999	69,135	7,597	217,013	428,978	72.3	164,622	48,326	50,140	17,595
	2 mos.	387	912,509	180,693	1,208,003	215,591	148,497	15,352	451,340	871,711	72.2	336,292	109,650	106,139	68,515
New Orleans & Northeastern	Feb.	204	847,452	43,300	954,984	153,071	88,794	17,610	256,782	553,455	58.0	401,529	179,355	171,834	108,596
	2 mos.	204	1,817,649	111,755	2,045,040	290,223	196,003	36,367	533,858	1,134,037	55.5	911,003	404,307	404,549	251,363
Southern Pacific	Feb.	8,195	27,354,547	3,394,164	33,215,292	4,236,021	6,363,775	635,989	13,455,141	26,566,123	80.0	6,649,169	3,634,930	2,372,660	2,924,761
	2 mos.	8,195	55,852,112	7,222,992	68,199,403	8,581,743	13,227,132	1,289,559	27,764,985	54,763,233	80.3	13,436,170	7,273,828	4,599,853	5,578,488
Texas & New Orleans	Feb.	4,316	8,689,061	810,191	10,179,138	1,342,805	1,441,077	198,227	4,011,886	7,448,687	73.2	2,730,451	1,164,026	1,064,661	1,211,654
	2 mos.	4,316	17,534,248	1,642,042	20,558,319	2,685,155	2,868,432	389,187	8,071,546	14,942,189	72.7	5,616,130	2,419,672	2,160,149	2,097,200
Spokane, Portland & Seattle	Feb.	945	1,576,533	79,306	1,778,257	534,559	232,409	19,436	672,603	1,551,081	87.2	227,176	165,159	—87,308	—25,091
	2 mos.	945	3,388,636	176,470	3,817,218	1,060,102	505,408	38,905	1,436,420	3,227,764	84.6	589,454	350,361	—60,565	214,602
Tennessee Central	Feb.	286	307,733	3,918	337,222	60,482	73,800	8,557	193,484	352,790	104.6	—15,568	32,008	—91,722	—5,509
	2 mos.	286	627,170	11,679	689,264	119,249	146,572	17,246	384,404	700,596	101.6	—11,332	64,378	—158,058	—27,243
Texas & Pacific	Feb.	1,854	5,040,379	466,807	5,935,828	749,370	837,396	167,385	2,353,780	4,384,674	73.9	1,551,064	644,128	602,473	541,703
	2 mos.	1,854	10,302,859	988,910	12,174,684	1,565,575	1,831,760	326,257	4,815,538	9,117,747	74.9	3,056,937	1,224,220	1,198,861	1,073,145
Texas Mexican	Feb.	162	160,293	12	185,184	33,558	23,022	5,783	66,089	142,454	76.9	42,730	14,232	12,090	35,253
	2 mos.	162	369,930	66	435,913	78,254	51,609	11,181	125,488	294,777	67.6	141,136	48,214	58,010	88,422
Toledo, Peoria & Western	Feb.	239	335,250	1	339,331	33,320	20,909	31,113	99,315	206,818	61.0	132,513	50,910	60,619	—32,637
	2 mos.	239	655,391	4	663,675	68,986	43,601	63,817	203,219	422,987	63.7	240,688	93,789	104,191	—72,007
Union Pacific System	Feb.	9,756	25,817,654	3,085,412	31,607,733	4,173,556	5,959,620	677,344	12,245,115	25,005,513	79.1	6,602,220	4,338,657	1,574,550	2,979,011
	2 mos.	9,756	54,412,458	6,945,257	66,950,185	8,609,212	12,343,236	1,473,992	25,168,167	51,622,113	77.1	15,328,072	9,460,716	4,161,741	6,029,499
Utah	Feb.	111	184,191	.....	184,236	30,803	46,736	747	74,132	160,290	87.0	23,946	13,822	15,933	24,539
	2 mos.	111	395,056	.....	395,432	68,249	98,897	1,353	153,579	338,022	85.5	57,410	28,159	34,111	51,471
Virginian	Feb.	661	2,829,870	4,463	2,945,757	344,106	710,356	38,439	918,828	[2,102,949	71.4	842,808	496,240	548,596	691,801
	2 mos.	661	6,090,085	9,383	6,305,228	670,113	1,464,745	78,495	1,791,024	[4,193,413	66.5	2,111,815	1,149,240	1,340,385	1,674,926
Wabash	Feb.	2,393	[7,451,715	459,982	8,487,011	939,663	1,158,589	237,398	3,399,455	5,958,940	70.2	2,528,071	1,030,153	1,085,160	1,011,072
	2 mos.	2,393	14,779,369	951,476	16,883,730	903,673	2,319,477	478,755	6,774,401	12,054,245	71.4	4,829,485	1,966,110	2,035,641	1,922,270
Ann Arbor	Feb.	294	682,331	2,132	695,115	69,484	146,136	21,827	332,358	378,264	83.2	116,851	62,645	37,946	62,232
	2 mos.	294	1,332,448	4,984	1,359,880	131,406	302,680	44,014	653,126	1,155,553	85.0	204,327	113,595	59,075	112,582
Western Maryland	Feb.	837	3,576,618	10,704	3,707,030	391,412	741,343	64,119	1,357,754	2,670,729	72.0	1,036,301	484,000	661,616	480,546
	2 mos.	837	7,266,473	23,560	7,580,135	835,589	1,451,807	132,127	2,766,689	5,432,483	71.7	2,147,652	1,006,000	1,344,636	1,123,093
Western Pacific	Feb.	1,195	2,821,369	114,254	3,011,730	445,959	508,273	113,939	1,188,552	2,415,349	80.2	596,381	207,335	251,385	—50,177
	2 mos.	1,195	5,826,290	250,737	6,238,475	894,454	1,074,689	241,085	2,434,224	4,973,443	97.7	1,265,032	461,913	638,960	83,844
Wheeling & Lake Erie	Feb.	[505	2,397,352	.....	2,478,084	301,356	387,468	62,646	824,240	1,647,043	66.4	831,041	513,715	549,466	457,081
	[2 mos.	505	5,055,277	.....	5,214,347	610,712	802,876	122,999	1,691,978	3,371,257	64.7	1,843,090	1,093,269	1,203,782	986,680
Wisconsin Central	Feb.	1,051	2,019,870	28,945	2,191,949	247,346	384,935	63,343	989,548	1,759,706	80.3	432,243	153,539	141,756	69,255
	2 mos.	1,051	4,051,873	65,430	4,404,692	504,505	781,392	119,322	2,097,674	3,655,343	83.0	749,349	308,561	137,066	231,396

this...

prevents this!

Nalco No. 37 Diesel Cooling System Treatment effectively prevents scale and corrosion .. now improved to inhibit all types of galvanic corrosion including the most active Aluminum Copper couple.

Nalco No. 37 comes in 20 oz. cans or in 100 lb. lever pak drums. Recommended dosage for all cooling system use is 0.4 ounces per gallon of water. Naocometer or Nalco DCT Color Comparison Test provides rapid means of checking treatment strength to insure proper protection.

Nalco Bulletin No. 471 gives additional information. For complete details write:

Section of Diesel cylinder wall showing waterside corrosion that occurs without protective treatment.

No water is safe... even demineralized or distilled water requires Nalco treatment for positive protection against corrosion.

NATIONAL ALUMINATE CORPORATION
6216 W. 66th Place, Chicago 38, Ill.
Canadian inquiries should be addressed to:
Alchem Limited, 555 Eastern Ave., Toronto, Ontario

The Complete System of Water Treatment for Steam and Diesel Locomotives

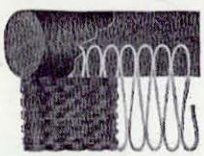
Nalco

THE WEATHERSTRIP THAT HAS NO EQUAL

Seals End Doors on Pennsylvania Coaches

For airtight end door sealing, a vital factor in maintaining optimum air conditioning on its new passenger coaches, The Pennsylvania Railroad uses Bridgeport Inner-seal weatherstripping. Of unique design, a live sponge rubber bead is vulcanized for life to a woven flange of tough spring steel wire and cotton thread, making Inner-seal resilient and flexible. It molds itself into every crevice to seal out drafts, grime, dampness and noise. It's easy to install even around sharp angles and compound curves. And, for applications such as this, Inner-seal may be provided with a neoprene coating which is highly resistant to abrasion, sunlight, oil and extreme temperature variations.

Inner-seal is made in many standard sizes and colors or may be designed specially for your requirements. Write today for data sheet giving complete information.



Tough spring steel wire molded for life into live sponge rubber

Bridgeport
FABRICS, INC.
BRIDGEPORT 1, CONN.
Est. 1837

Represented in Canada by
The Holden Co., Ltd., Montreal, Toronto, Winnipeg, Vancouver, B. C.

Current Publications

PAMPHLETS

Review of South American Railroads in 1947, by Seymour T. R. Abt. Seven pages. Issued by the Office of International Trade, United States Department of Commerce. Available from the Government Printing Office, Washington 25, D. C. Price, five cents.

Following an introduction dealing with long range trends of South American railroads in general, Mr. Abt proceeds to discuss railroad conditions in Argentina, Brazil, Bolivia, Chile, Uruguay, Paraguay, Peru, Ecuador, Colombia and Venezuela This study also appeared in the *Railway Age* of December 20 and December 27, 1947.

Accident Bulletin No. 115 Calendar Year 1946. 119 pages. Prepared by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. For sale by the Government Printing Office, Washington 25, D. C. Price, 40 cents.

Contains a summary and analysis of accidents on steam railways in the United States during the year 1946.

Horses to Horsepower; a Study of the Effect of the Motor Truck on American Living, by Franklin M. Reck. 48 pages, illustrations. Published by the Automobile Manufacturers Association, New Center Building, Detroit 2, Mich. Free.

This pamphlet is an evaluation of the role of the truck and highway in our transportation pattern. Beginning with the growth in the use of trucks, subsequent chapters discuss new markets for farmers, smalltown, U.S.A., trucks for cities, trucks on the highway, trucks the public seldom sees, and ventures in initiative.

Pamphlet No. 10—Methods for Battening Car Doors as Protection Against Damage by Weather, Cinders, Etc. Prepared by the Association of American Railroads. May be obtained by writing the Secretary of the Freight Loading and Container Section, A. A. R., 59 E. Van Buren st., Chicago 5, Ill.

Pamphlet No. 10 is a reprint of former information with regard to the proper battening of car doors for protection in transit, with the majority of illustrations redrawn and reproduced in larger size than heretofore.

ARTICLES IN PERIODICALS

Problems in Writing the History of Large Business Units. Bulletins of the Business Historical Society, February 1948, pp. 3-35. Published by the Business Historical Society, Inc., Soldiers Field, Boston, Mass.

During the meeting of the American Historical Association at Cleveland, O., last December, the Business Historical Society and the American Historical Association held two joint meetings devoted to the subject "Problems in the Writing of

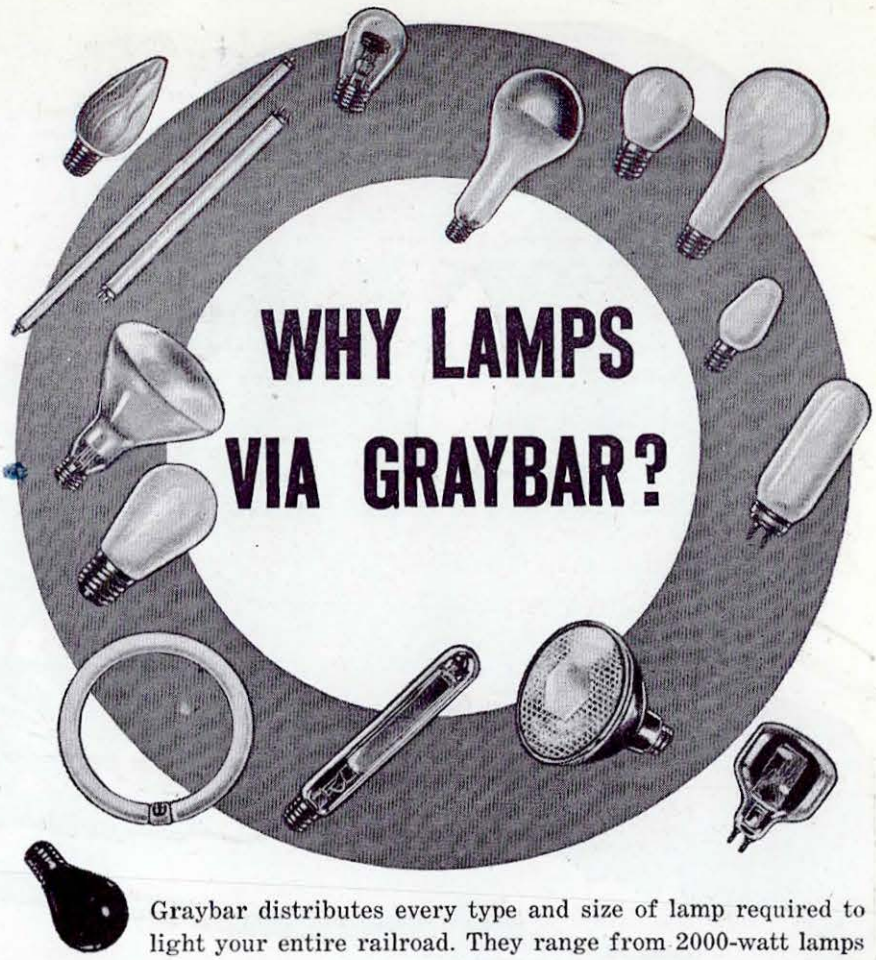
the History of Large Business Units.' Three papers presented at one of the sessions constitute this issue of the Bulletin. The first, by Dr. Ralph W. Hidy of the Business History Foundation deals with the importance of the history of the large business unit; the second, by Dr. Henrietta M. Larson, also of the foundation, considers the availability of records; and the third, by Professor Richard C. Overton of Northwestern University, is devoted to the problems of writing the history of large business units with special reference to railroads. An abstract of this latter paper appeared in the *Railway Age* of February 14, page 343.

The Pennsy's Predicament. Fortune, March, 1948, pps. 84-93, et seq. Published by Time Inc., 540 N. Michigan Avenue, Chicago. Single copies, $1.

In complete and clearly written manner Fortune has outlined the troubles recently experienced by the Pennsylvania. These include such things as costs which increase faster than rates, a problem common to all railroads, the cost of doing business in such expensive places as New York City and its environs where large freight and passenger terminals are maintained, the shortage of modern motive power, and the war and its aftermath (in terms of greatly increased freight and passenger traffic and its effect on track and equipment, the large number of employees that went into service and had to be absorbed and up-graded upon their return, and broken-down and worn-out equipment). It stresses particularly the expansion of traffic without a corresponding increase in plant, a condition which has been developing since 1939, when the road is said to have reached its peak of operating efficiency. The article is optimistic, however, for the future of the railroad and explains what it is doing to regain its former efficiency. In a supplementary article the complex corporate structure of the company is outlined.

Transport — Artery of the Economy, by D. Svetov and A. Korneyev. U.S.S.R. Information Bulletin, March 31, 1948, pp 181-182. Published by the Embassy of the Union of Soviet Socialist Republics, 2112 Massachusetts ave., N.W., Washington, D. C.

Improvements in Soviet transport during the first two years of the current Five-Year Plan (1946, 1947) are discussed in this article. It says the Soviet railway workers are determined to fulfill the five-year program in four years. In November, 1947, 512 big trunk lines reached the goals of the second year of the Plan ahead of schedule. The railways of the Northwestern area loaded more than 100,000 cars of various freight over and above the year's program. In passenger service, the carrying capacity already exceeds that of the prewar period and reaches the anticipated level of 1950—the last year of the Five-Year Plan. Large-scale work has also been carried out in the repair and reabilitation of the railways and their equipment.



Graybar distributes every type and size of lamp required to light your entire railroad. They range from 2000-watt lamps for yard floodlighting to miniature bulbs for flashlights. Included, too, are headlight lamps and signal lamps. They're all G-E, so you get the best quality and the longest service.

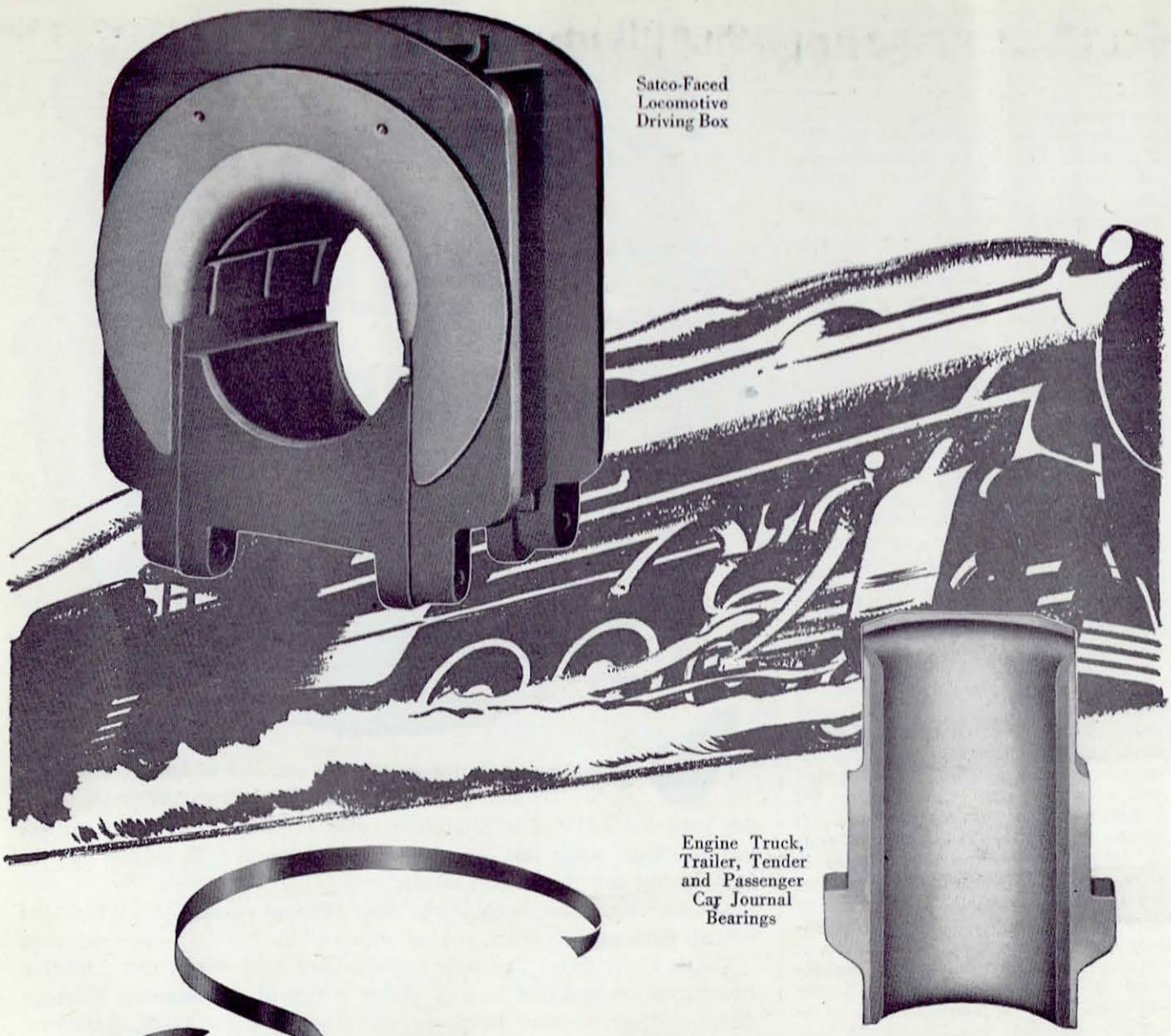
Graybar maintains lamp stocks near railroad centers throughout the nation. With a single order, you can obtain all the kinds of lamps you need.

Graybar's Railroad Specialists understand your needs. Our Lighting Specialists are qualified to give expert advice in the choice of filament, fluorescent, or mercury lamps and lighting units for yards, platforms, roundhouses, pits, tunnels, stations, shops, or offices. *These men can impartially recommend the correct lighting equipment for your needs, from the most complete selection of lamps and lighting units available anywhere.*

There are similar reasons why it pays to have Graybar provide your pole-line supplies, communication equipment, wiring materials and supplies, repair-shop electrical apparatus, and electric tools. For facts about anything electrical, we invite you to call our nearest office. Graybar Electric Company, Inc. Executive offices: Graybar Building, New York 17, N. Y.

4837

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES



Satco-Faced Locomotive Driving Box

Engine Truck, Trailer, Tender and Passenger Car Journal Bearings

Satin finish SATCO

Means COOLER BEARINGS

Satco bearing metal has a lower coefficient of friction than conventional bearing metals, and its satin smooth finish still further reduces friction ... resulting in cooler running bearings.

SATCO Bearing Metal ★

MODERN HEAVY DUTY BEARINGS

MAGNUS METAL CORPORATION
CHICAGO NEW YORK

1047-R

..SERVING..BY Saving

Fairbanks-Morse, today as in the past, is serving the railroads of the nation with a long line of railroad equipment designed and built by men who have "grown up with the roads"—equipment that saves time, manpower and maintenance dollars wherever it is used.

That's why Fairbanks-Morse is a primary source for oil and water standpipes, coal and sanding stations for diesel and steam locomotives, cinder conveyors, railroad scales, pumps, motor cars—and other primary equipment. Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE

A name worth remembering

DIESEL LOCOMOTIVES • DIESEL ENGINES • GENERATORS
MAGNETOS • RAILROAD MOTOR CARS and STANDPIPES
STOKERS • FARM EQUIPMENT • SCALES • PUMPS • MOTORS

GET TOGETHER DEPARTMENT

SPECIAL OFFERING

LOCOMOTIVES

STANDARD GAUGE

2—12-Ton, 0-4-0, Plymouth Gasoline.
1—20-Ton, 0-4-0, Whitcomb Gasoline.
1—20-Ton, 0-4-0, Davenport Gasoline.
1—44-Ton, 360 H.P. G.E. Diesel-Electric, New 1940, ICC Condition, 4 Motor Drive Caterpillar Engines T/E 27280 lbs.
1—45-Ton, G.E. Diesel-Electric.
2—45-Ton, Plymouth Diesel-Electric.
1—65-Ton, Atlas Diesel-Electric.
1—65-Ton Vulcan, 400 H.P., 0-4-4-0, Diesel-Electric, New 1941, T. E. 39,000 lbs.
1—83-Ton, 2-6-2, Saddle Tank, Oil-Fired Steam. A REAL BUY.
1—146-Ton, 0-10-0, Coal-Fired Steam, ICC Condition.
1—87-Ton, 600 H.P. Diesel-Electric, Twin Unit Type. Can Be Operated As 2 Units 87-Ton, Or As 2 Separate 43½-Ton Units.

In Good Operating Condition

Available for immediate delivery

IRON & STEEL PRODUCTS, INC.

New York Office
120 Liberty St.
New York 6, N. Y.
Beekman 3-8230

43 Years' Experience

General Office
13486 S. Brainard Ave.
Chicago 33, Ill.
Bayport 3456

"ANYTHING containing IRON or STEEL"

FREIGHT CARS

4—Gondola, Steel, 70-Ton, 46-Ft.
16—Gondola, Steel, 50-Ton, 41 Ft.
4—Gondola, Composite, 50-Ton, 48-Ft.
50—Hopper, Twin, Steel, 50-Ton
2—Hopper, Covered, 30-Ton, Equipped with Fuller-Type Outlet Valves.
29—Box, 40- and 50-Ton, 40 Ft. Single Sheathed.
10—Caboose, 8-Wheel, Steel Sills.
8—Box, 40-Ton, 40 Ft., Single Sheathed.
8—Ore Hopper Cars, Steel, Cross Dump, 50-Ton.
16—Flat, 40- and 50-Ton, 33- to 48-Ft.
9—Flat, 40-Ton, 60-Ft.
9—Flat, 50-Ton, 58-Ft.
1—Tank, 3665 Gals., Class II, Non-Coiled.
3—Tank, Class II, 8,000-Gals., Non-Coiled.
6—Tank, Class II, 10,000 Gals.
88—Dump, 20-Yd. Automatic Air.
31—Dump, 30-Yd., Automatic Air.

Available for immediate delivery

IRON & STEEL PRODUCTS, INC.

New York Office
120 Liberty St.
New York 6, N. Y.
Beekman 3-8230

43 Years' Experience

General Office
13486 S. Brainard Ave.
Chicago 33, Ill.
Bayport 3456

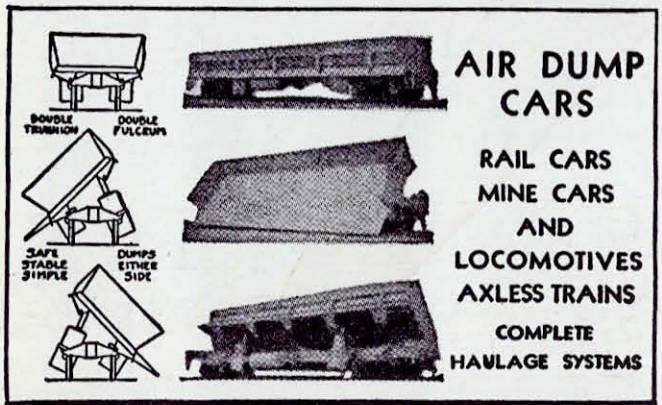
"ANYTHING containing IRON or STEEL"

POSITION OPEN

Wanted Railway Supply Salesman. Must be acquainted with Car Department officers. Old established company. Write giving full experience. Address Box 922, RAILWAY AGE, 30 Church St., New York 7, N. Y.

POSITION OPEN

WANTED a man for position of Superintendent of a 90-mile shortline railroad located in the South. Prefer a man who has had considerable experience in managing operation of a shortline railroad. Address Box 925, RAILWAY AGE, 30 Church St., New York 7, N. Y.



FOR SALE

1—Brill all steel combination passenger-baggage-mail standard gauge rail motor car. Rebuilt.
2—45 ton G.E. type 0-4-4-0 300 HP std. ga. diesel electric locomotives.
1—No. 6 Brownhoist 30/40 ton 8-wheel std. ga. locomotive crane, National Board boiler.

THOMAS F. CAREY CO., INC.
120 Liberty Street,
New York 6, N. Y.

Sales Position Wanted

Engineering College Graduate. Nineteen years Railway and Railway Sales experience. Good contacts throughout U.S., chiefly in Motive Power Departments, Eastern territory. Fine war record. Considerable knowledge of Spanish, some French and German. Salary plus bonus preferred. Location immaterial. Address Box 924, RAILWAY AGE, 30 Church St., New York 7, N. Y.

FOR SALE

Carrier, Teletype and Telephone Equipment

Western Electric CF-2-B four-channel voice frequency carrier telegraph terminals; Western Electric three-channel packaged voice frequency carrier telegraph terminals; Four-channel carrier telephone terminals with pilot regulator channels; 1000/20 cycle voice frequency ringers. New and reconditioned teletype Models 15 and 19 page printers; Model 14 perforators; reperforators, etc.

Western Electric 551-A PBX; Kellogg K-100; Stromberg-Carlson 100 Line switchboards. Variety of switchboard and telephone cords, and 2 mfd. telephone condensers. Standard type battery and magneto telephones. Immediate delivery on most items. All priced right. Write: Railway Communications, Inc., State Fair Grounds, P. O. Box 1783, Lincoln, Nebraska. In Mexico: Comercial Electrica, S.A., Avenida Emilio Carranza, 36 Sabinas, Coahuila, Mexico.

POSITION WANTED

"Former Operating Officer with 44 years experience, would like employment by Short Lines, either special duty or permanent. Full details of experience, etc., upon request."

Address Box 886,
30 Church St., New York 7, N.Y.

POSITION WANTED

Train Dispatcher with 7 years experience on single track system. Desires position with chance of advancement in Transportation Department. Total railroad experience 18 years. Married. Age 37, now employed. Address Box 927, RAILWAY AGE, 30 Church St., New York 7, N. Y

Educational Services for RAILROAD MEN

Our New Service
on
Diesel Locomotive
Operation
is highly recommended
for
Engineers and Firemen

The Railway Educational Bureau
Omaha 2, Nebraska

DE LEUW, CATHER & COMPANY
ENGINEERS

Railway Terminals and Yards
Bridges Shops & Structures
Tunnels Diesel Facilities

Grade Separations
Transportation Problems
Industrial Plants

Plans and Supervision of Construction

20 North Wacker Dr., Chicago 6

CARS—LOCOMOTIVES

1—80 Ton Whitcomb Diesel Elec.
2—60 Ton G. E. Diesel Elec.
1—50 Ton Baldwin Electric
1—44 Ton Whitcomb Diesel Elec.
1—35 Ton Plymouth Gasoline
1—16 Ton Vulcan Gasoline
80—40 Ton Box Cars
20—40 Ton Gondolas
30—12 & 16 Yd. Dump Cars

DARIEN CORP.
60 E. 42nd St., N. Y., 17 N. Y.

RAIL TRACK MATERIALS

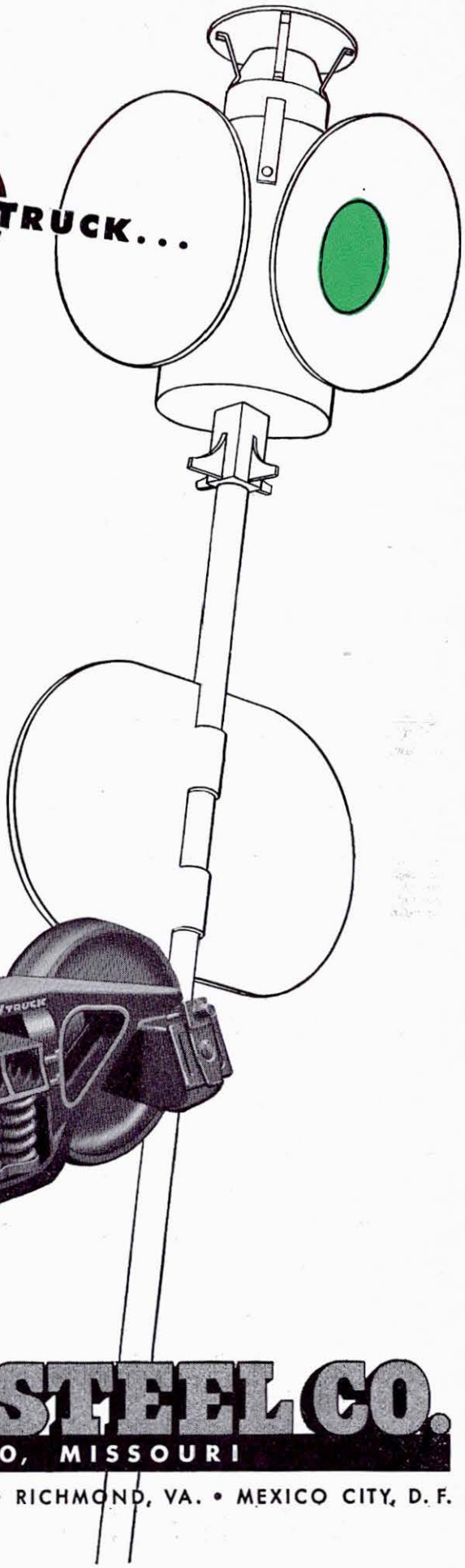
W. H. DYER CO., INC.
1859-R Railway Exchange Bldg.
St. Louis 1, Mo.

Water Works Engineer

Permanent position in engineering sales work with equipment manufacturer. Contact water works and sewage consulting engineers; engineers in municipal departments and pipe companies. Work begins prior to writing of specifications and follows through to bidding of jobs. Fixed salary. Considerable traveling. Excellent opportunity for man over 35 with right technical background, water works experience and desire for active, interesting engineering sales work. Write Personnel Manager, Dresser Manufacturing Division, Dresser Industries, Inc., Bradford, Penna.

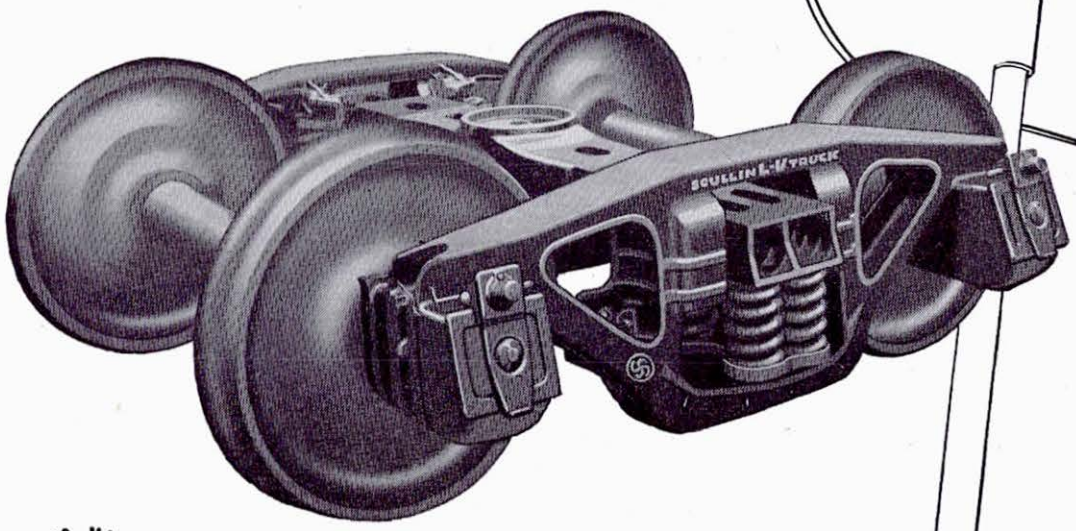
SWITCH TO THE SCULLIN L-V TRUCK...

LATERAL VERTICAL L-V CUSHIONED MOTION



for smoother, safer, faster freight

Lading, cars and track all benefit from the gentle "Pullman" ride freight gets on Scullin L-V Trucks. Destructive bounce and sidesway are completely cushioned . . . at all speeds . . . under any conditions. Yet L-V Trucks are comparable to conventional types in price, weight and maintenance cost. Ask the roads that run them!



STEEL CASTING MANUFACTURERS SINCE 1899

SCULLIN STEEL CO.

SAINT LOUIS 10, MISSOURI

NEW YORK • CHICAGO • CLEVELAND • BALTIMORE • RICHMOND, VA. • MEXICO CITY, D. F.

Advertisers

IN THIS ISSUE

Ajax-Consolidated Company .....Back Cover
American Arch Company 83
American Creosoting Company, Inc. 12
American Steel Foundries 5

Barco Manufacturing Co. 19
Bendix Aviation Corporation, Scintilla Magneto Div. 4
Bethlehem Steel Company 8
Bridgeport Fabrics, Inc. 88

Canadian Cardwell Co., Ltd. 13
Cardwell Westinghouse Co. 13
Carey Co., Inc., Thomas F. 92
Classified Advertisements 92

Darien Corporation 92
DeLeuw, Cather & Company 92
Dearborn Chemical Company 9
Differential Steel Car Company 92
Douglas Fir Plywood Association 14
Dresser Industries 92
Duryea Corporation, O. C. 11
Dyer Co., Inc., W. H. 92

Fairbanks, Morse & Co. 91
Franklin Railway Supply Company 81

General Steel Castings 20, 21
Get Together Department 92
Globe Steel Tubes Company 22
Gould Storage Battery Corporation 6
Graybar Electric Company, Inc. 89
Great Lakes Steel Corporation 24
Grover Company, The 16

Hoover, Owens, Rentschler Co. 79
Hunt-Spiller Mfg. Corp. 85

Inland Steel Co. 3
Iron & Steel Products, Inc. 92

Kerite Company, The 95
Koppers Company, Inc., Wood Preserving Division 18

Lamson & Sessions Company, The 15
Lima-Hamilton Corporation 79
Lima Locomotive Division, Lima Shovel & Crane Division 79

Magnus Metal Corporation 90
Magor Car Corporation 23
Mahon Company, The R. C. 17
McInerney Spring & Wire Company 25

National Aluminate Corporation 87
Niles Tools Works Co. 79

Ohio Locomotive Crane Co., The 92
Okonite Company, The 32

Pittsburgh Plate Glass Company 26
Pyle-National Company, The 27

Railway Communications, Inc. 92
Railway Educational Bureau, The 92
Remington Rand 10
Ryerson & Son Inc., Joseph T. 94

Scintilla Magneto Division of Bendix Aviation Corporation 4
Scullin Steel Co. 93
Socony-Vacuum Oil Co., Inc. 7

Timken Roller Bearing Co., The ...Front Cover

Union Switch & Signal Co. 30
Unit Truck Corporation 2

Westinghouse Air Brake Co. 28

Another pat on the back for *Railway Age's* new format.

During the session on Production, at a Course on Business Paper Publishing given by the ABP and Northwestern University, various publications were offered the opportunity of having their pages rated "by the experts" on the basis of format, design, typography and so on.

The analysis was made by Otto M. Forkert, director of design and typography at the Cuneo Press, contributor to Graphic Arts journals, and the Standard American Encyclopedia, and faculty member of the Chicago Art Institute.

Publications were rated on 10 classifications: format, cover, table of contents, body type, heads, illustrations, layouts, paper and ink, presswork and engravings. In every category except the cover which was rated at 8 points, *Railway Age* scored 9 points out of a possible 10.

Among the 50 periodicals examined by Mr. Forkert, *Railway Age* took third place with a total score of 89 out of 100. Only American Builder, another Simmons-Boardman publication, and one other periodical gained a higher rating.

STEEL *in stock at* **RYERSON**

• Ryerson has the steel you need ready for immediate shipment. Twelve convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City, Pittsburgh, Los Angeles.

Principal Products Include:

Structurals	Alloys	Mechanical Tubing	Reinforcing
Plates	Cold Finished Steel	Boiler Tubes	Nails, Rivets, etc.
Sheets	Tool-Steel	Welding Rod	Machinery
Strip	Stainless	Babbitt, Solder	Tools

KERITE is, regretfully, forced to ask your help in rounding up and returning to us, as soon as possible, all available KERITE cable reels which you can spare.

Shortages of materials for reels makes this request necessary.

Happily we are still able to turn out record quantities of KERITE cable — but unless the reel problem is solved quickly, we will be unable to make deliveries as fast as we can complete production of your orders.

Please bring this matter to the attention of the proper people in your organization so that we can continue to serve you to the best of our ability.

Reels should be returned to The Kerite Company, Seymour, Conn.

Kerite Insulation — Your Cable's Best Life Insurance

KERITE CABLE

AJAX

Hand Brake

"Certified" A.A.R.

A Symbol of Leadership

Ajax pioneered the one hand operated, vertical type, power hand brake. It has, since 1926, maintained its supremacy in safety, efficiency and economy by following a policy of constant improvement, without radical change.

Since first installed on different type cars, Ajax Brakes have a record of performance and dependability unequaled in railroad service.

Research, experience and a planned engineering program has produced a power hand brake having many exclusive features and world-wide acceptance.

Recognition of this leadership has made Ajax standard equipment on most railroads and private car lines.

Ajax Hand Brakes assure safety for brakemen—equipment and loading.

Always Dependable

AJAX-CONSOLIDATED COMPANY

CHICAGO 50, ILLINOIS

Export Department: International Railway Supply Co., New York, N. Y.
Canadian Representative: The Holden Co., Ltd., Montreal